



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPEAL BRIEF FOR THE APPELLANT

Ex parte BOWES

HIGH SPEED FLOW CONTROL METHODOLOGY

Serial No. 09/709,532

Appeal No.:

Group Art Unit: 2616

Enclosed is a check in the amount of Five Dollars (\$500.00) to cover the official fee for this Appeal Brief. In the event that there may be any fees due with respect to the filing of this paper, please charge Deposit Account No. 50-2222.

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Appeal Brief

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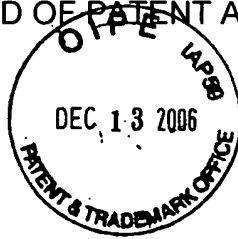
In re the Appellant:

Michael J. Bowes

Serial Number: 09/709,532

Filed: November 13, 2000

For: HIGH SPEED FLOW CONTROL METHODOLOGY



Appeal No.:

Group Art Unit: 2616

Examiner: Michael J. Moore

BRIEF ON APPEAL

December 13, 2006

I. INTRODUCTION

This is an appeal from the final rejection set forth in an Official Action dated June 9, 2006, finally rejecting claims 1, 2 and 4-38, all of the claims pending in this application, as being unpatentable over Beuk et al. (U.S. 5,774,673) ("Beuk"). A Request for Reconsideration was timely filed on July 28, 2006. An Advisory Action was issued on August 17, 2006, indicating that request for reconsideration has been considered but does not place the application in condition for allowance. A Notice of Appeal was timely filed on September 8, 2006. This Appeal Brief is being timely filed.

II. REAL PARTY IN INTEREST

The real party in interest in this application is Broadcom Corporation of Irvine, California.

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III. STATEMENT OF RELATED APPEALS AND INTERFERENCES

There are no known related appeals and/or interferences which will directly effect

or be directly effected by or have a bearing on the Board's decision in this appeal.

IV. STATUS OF CLAIMS

Claims 1, 2 and 4-38, all of the claims pending in the present application, are the subject of this appeal. Claims 1, 2, 4-12, 14, and 16-38 were rejected under 35 U.S.C. §102(b) as being anticipated by Beuk (U.S. Patent No. 5,774,673). Claims 13 and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Beuk in view of Meyer (U.S. Patent No. 6,611,495).

V. STATUS OF AMENDMENTS

Claims 1 and 2 were last amended in a Response filed on January 10, 2006. Claim 3 was cancelled. Claims 14 and 28 were last amended in a Response filed July 1, 2005. No further amendments have been made. Therefore, claims 1, 2, and 4-38 are currently pending.

VI. SUMMARY OF CLAIMED SUBJECT MATTER

The independent claims involved in this appeal are claims 1, 14, and 28.

Claim 1, upon which claims 2-13 and 33-34 are dependent, recites a method for controlling data flow across a link. The method includes the steps of transmitting a packet request message from a first station to a second station, determining if the packet request message is valid, transmitting a request acknowledge message from the second station to the first station, and determining if the request acknowledge message is valid (Specification, page 1, lines 16-23). The step of transmitting a packet request message

further includes the step of generating the packet request message, which includes generating a request non-payload bit string corresponding to a pre-programmed packet request register. The packet request message and the request acknowledge message each include a control bit string, an identification bit string, and at least one parity bit. The control bit string identifies whether a frame is a control frame or a data frame. The identification bit string correlates the packet request message with a corresponding request acknowledge message (Specification, page 108, lines 19-28, Figures 28 and 29).

Claim 14, upon which claims 15-27 and 35-36 are dependent, recites a data flow control method for controlling data transmitted across a high speed link. The method includes the step of transmitting a packet request message from a first station to a second station, said packet request message having a first identification number, a first control code group, and a first parity parameter associated therewith. The method further includes the step of storing the first identification number associated with the packet request message. The method also includes the step of transmitting a request acknowledge message from said second station to said first station, said request acknowledge message having a second identification number, a second control group, and a second parity parameter associated therewith. The method further includes the steps of determining if the first and second control groups are valid, determining if the second identification number matches the first identification number, and determining if the first and second parity parameters are valid (Specification, page 1, line 17 – page 2, line 7). The first control group and the second control group are configured to identify whether a frame is a control frame or a data frame. The first identification number and second identification number are configured to correlate the packet request message

with a corresponding request acknowledge message (Specification, page 106, line 1 – page 108, line 28, and Figures 28 and 29).

Claim 28, upon which claims 29-32 and 37-38 are dependent, recites an apparatus for controlling data flow across a link. The apparatus includes a first transmitting unit for transmitting a packet request message from a first station to a second station, said packet request message including a first identification number, a first control code group, and a first parity parameter associated therewith. The apparatus also includes a storage unit for storing the first identification number associated with the packet request message, and a second transmitting unit for transmitting a request acknowledge message from said second station to said first station, said request acknowledge message having second identification number, a second control group, and a second parity parameter associated therewith. The apparatus further includes at least one flow logic unit for determining if the first and second control groups are valid, determining if the second identification number matches the first identification number, and determining if the first and second parity parameters are valid (Specification, page 2, lines 8-21). The first control group and the second control group are configured to identify whether a frame is a control frame or a data frame. The first identification number and second identification number are configured to correlate the packet request message with a corresponding request acknowledge message (Specification, page 106, line 1 – page 108, line 28, and Figures 28 and 29).

VII. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection to be reviewed on appeal are the rejection of claims 1, 2, 4-12, 14, and 16-38 under 35 U.S.C. §102(b) as being anticipated by Beuk (U.S. Patent No. 5,774,673), and claims 13 and 15 under 35 U.S.C. 103(a) as being unpatentable over Beuk in view of Meyer (U.S. Patent No. 6,611,495).

VIII. APPELLANT'S ARGUMENTS

Appellants respectfully submit that each of pending claims 1, 2, and 4-38 recites subject matter that is not taught, disclosed, or suggested by the cited art. Each of the claims is being argued separately, and thus, each of the claims stands or falls alone.

A. Claims 1, 2, 4-12, 14, and 16-38 are novel in view of Beuk

In the final Office Action, claims 1, 2, 4-12, 14, and 16-38 were rejected under 35 U.S.C. §102(b) as being anticipated by Beuk (U.S. Patent No. 5,774,673). The Final Office Action took the position that Beuk teaches each and every element recited in the rejected claims. Appellants submit that each of claims 1, 2, 4-12, 14, and 16-38 recite subject matter that is not taught or disclosed by Beuk, and as such, the Board's reversal of the rejection is respectfully requested.

1) Claim 1

Claim 1, upon which claims 2-13 and 33-34 are dependent, recites a method for controlling data flow across a link. The method includes the steps of transmitting a packet request message from a first station to a second station, determining if the packet request message is valid, transmitting a request acknowledge message from the second station to the first station, and determining if the request acknowledge message is valid.

The step of transmitting a packet request message further includes the step of generating the packet request message, which includes generating a request non-payload bit string corresponding to a pre-programmed packet request register. The packet request message and the request acknowledge message each include a control bit string, an identification bit string, and at least one parity bit. The control bit string identifies whether a frame is a control frame or a data frame. The identification bit string correlates the packet request message with a corresponding request acknowledge message.

Appellants respectfully submit that claim 1 recites subject matter which is neither disclosed nor suggested by Beuk.

Beuk discloses a system for communicating between a dynamic group of apparatuses. The system allows an apparatus to establish communication between a local application and applications in other apparatuses. An active activation unit invites applications in other apparatuses to join by using a message sending unit to transmit a broadcast frame to all apparatuses which requests activation of the selected application. The broadcast frame specifies which application is being activated. The active activation unit then determines a communication channel which corresponds to the application and the selected application, which is stored in storage, is executed by an execution unit. The broadcast frame is received by a message receiving unit in other apparatuses. A passive activation unit verifies whether the receiving apparatus has an application, which corresponds to the specified application and whether such an application needs to be activated (Col. 1, line 57 – Col. 3, line 25).

Appellants note that a “claim is anticipated only if each and every element as set

forth in the claim is found, either expressly or inherently described, in a single prior art reference” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Additionally, the “identical invention must be shown in as complete detail as is contained in the...claim” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Appellants submit that the final Office Action has failed to establish a prima facie case for anticipation as Beuk fails to disclose each and every element of claim 1. Specifically, Beuk does not disclose or suggest “wherein said step of transmitting a packet request message further comprises the step of generating the packet request message, the step of generating the packet request message comprising generating a request non-payload bit string corresponding to a pre-programmed packet request register,” as recited in claim 1. Beuk also fails to disclose or suggest “wherein the packet request message and the request acknowledge message each include a control bit string, an identification bit string, and at least one parity bit,” as recited in claim 1.

In the response to arguments section, the Office Action appears to take the position that the TYPE field of Beuk corresponds to “a request non-payload bit string corresponding to a pre-programmed packet request register,” as recited in claim 1. The Office Action also takes the position that the TYPE field of Beuk corresponds to the control bit string, identification bit string and at least one parity bit that are included in the packet request message and the request acknowledge message of the present invention. Appellants respectfully submit, however, that Beuk contains no disclosure regarding the TYPE field being a request non-payload bit string corresponding to a pre-programmed packet request register, and a control bit string, identification bit string

and at least one parity bit.

Rather, Beuk merely discloses that various frames (acknowledgement frame, broadcast frame, group frame) include a TYPE field. Specifically, Beuk teaches that the “TYPE field comprises an A/M field and an B/G field. The A/M field is used to distinguish between an acknowledgment frame and a message frame. The B/G field is used to distinguish between the two types of message frames: a broadcast frame and a group frame” (Beuk, Column 12, lines 36-42). Beuk does not disclose or suggest that the TYPE field corresponds to any type of register. Beuk only discloses that the TYPE field includes entries which indicate whether it is an acknowledgement or message. Appellants respectfully submit that this disclosure does not correspond to the generating of a request non-payload bit string corresponding to a pre-programmed packet request register, as recited in the claims.

Furthermore, the message receiving means of Beuk does not correspond to the pre-programmed packet request register of the present invention. Beuk discloses that the message receiving means 210 is for receiving a message frame (Beuk, Column 11, lines 33-34). Further, Beuk discloses that “the message receiving means 210 only receives a group frame 630 if the channel field specifies a channel which has been locally activated (i.e. in the receiving apparatus) by the channel activation means 240” (Beuk, Column 12, lines 9-12). Beuk also discloses that the message receiving means 210 receives the “activation request message 500 and verifies that the message has been received correctly.” Beuk, however, fails to disclose or suggest that the message receiving means is pre-programmed and that it corresponds to the request non-payload bit string.

Beuk, as mentioned above, merely discloses that the message receiving means 210 is a component which may receive a group frame under certain circumstances. Beuk does not disclose or suggest that generating a packet request message includes generating a request non-payload bit string corresponding to a pre-programmed packet request register, as recited in the claims. In other words, according to the Office Action's rationale, Beuk allegedly discloses that the TYPE field of the frames 610 and 630 is generated in order to correspond to the message receiving means 210. However, Beuk contains no such disclosure. Beuk only discloses that the message receiving means 210, as suggested by its name, may receive message frames such as the group frame 630. Therefore, for at least the reasons discussed above, Beuk fails to disclose or suggest "wherein said step of transmitting a packet request message further comprises the step of generating the packet request message, the step of generating the packet request message comprising generating a request non-payload bit string corresponding to a pre-programmed packet request register," as recited in claim 1.

For at least the reasons discussed above, Appellants submit that Beuk fails to disclose or suggest all of the elements of claim 1. Accordingly, the Board's consideration and reversal of the rejection thereof is respectfully requested.

2) Claim 2

Claim 2 is dependent upon claim 1, and recites further limitations. Thus, claim 2 is patentable at least for the reasons claim 1 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

3) Claim 3

Claim 3 has been cancelled without prejudice or disclaimer.

4) Claim 4

Claim 4 is dependent upon claim 1, and recites further limitations. Thus, claim 4 is patentable at least for the reasons claim 1 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

5) Claim 5

Claim 5 is dependent upon claim 1, and recites further limitations. Thus, claim 5 is patentable at least for the reasons claim 1 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

5) Claim 5

Claim 5 is dependent upon claim 1, and recites further limitations. Thus, claim 5 is patentable at least for the reasons claim 1 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

6) Claim 6

Claim 6 is dependent upon claim 1, and recites further limitations. Thus, claim 6 is patentable at least for the reasons claim 1 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

7) Claim 7

Claim 7 is dependent upon claim 1, and recites further limitations. Thus, claim 7 is patentable at least for the reasons claim 1 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

8) Claim 8

Claim 8 is dependent upon claim 1, and recites further limitations. Thus, claim 8 is patentable at least for the reasons claim 1 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

9) Claim 9

Claim 9 is dependent upon claim 1, and recites further limitations. Thus, claim 9 is patentable at least for the reasons claim 1 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

10) Claim 10

Claim 10 is dependent upon claim 1, and recites further limitations. Thus, claim 10 is patentable at least for the reasons claim 1 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

11) Claim 11

Claim 11 is dependent upon claim 1, and recites further limitations. Thus, claim 11 is patentable at least for the reasons claim 1 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be

reversed and this claim allowed.

12) Claim 12

Claim 12 is dependent upon claim 1, and recites further limitations. Thus, claim 12 is patentable at least for the reasons claim 1 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

13) Claim 14

Claim 14, upon which claims 15-27 and 35-36 are dependent, recites a data flow control method for controlling data transmitted across a high speed link. The method includes the step of transmitting a packet request message from a first station to a second station, said packet request message having a first identification number, a first control code group, and a first parity parameter associated therewith. The method further includes the step of storing the first identification number associated with the packet request message. The method also includes the step of transmitting a request acknowledge message from said second station to said first station, said request acknowledge message having a second identification number, a second control group, and a second parity parameter associated therewith. The method further includes the steps of determining if the first and second control groups are valid, determining if the second identification number matches the first identification number, and determining if the first and second parity parameters are valid. The first control group and the second control group are configured to identify whether a frame is a control frame or a data frame. The first identification number and second identification number are configured to correlate the packet request message with a corresponding request acknowledge

message.

Appellants respectfully submit that claim 14 recites subject matter which is neither disclosed nor suggested by Beuk.

As outlined above, Beuk discloses a system for communicating between a dynamic group of apparatuses. The system allows an apparatus to establish communication between a local application and applications in other apparatuses. An active activation unit invites applications in other apparatuses to join by using a message sending unit to transmit a broadcast frame to all apparatuses which requests activation of the selected application. The broadcast frame specifies which application is being activated. The active activation unit then determines a communication channel which corresponds to the application and the selected application, which is stored in storage, is executed by an execution unit. The broadcast frame is received by a message receiving unit in other apparatuses. A passive activation unit verifies whether the receiving apparatus has an application, which corresponds to the specified application and whether such an application needs to be activated (Col. 1, line 57 – Col. 3, line 25).

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Appellants submit, as will be explained below, that Beuk fails to disclose or suggest each and every element of claim 14.

More specifically, Beuk fails to disclose or suggest that the first identification number and the second identification number are configured to correlate the packet request message with a corresponding request acknowledge message, as recited in

claim 14. In one embodiment of the present invention, the packet request message and the request acknowledge message both include an identification string.

According to an aspect of the invention, this identification string is used to identify and correlate a specific packet request message with the corresponding request acknowledge message. Through implementation of this correlation scheme, accurate flow control across a high speed link is generated and, therefore, queue or buffer management requirements are reduced at the receiving end (Specification, page 108, lines 19-28). Appellants respectfully assert that Beuk fails to disclose or suggest that the identification strings are configured to correlate the packet request message with the corresponding request acknowledge message, as recited in the present claims.

The final Office Action took the position that the identification bit string correlating the packet request message with a corresponding request acknowledge message “is anticipated by the channel field (first identification number) shown in group frame 630 (packet request message) of figure 3 that is copied (correlates) to the channel field (second identification number) of acknowledgement frame 640 (request acknowledgment message) of figure 3 and that is used to filter acknowledgement messages as spoken of on column 4, lines 38-48 and column 12, lines 19-28” (Office Action, page 8, lines 15-22). Appellants respectfully disagree with the final Office Action’s rationale. Appellants respectfully assert that copying a first identification number to another location does not produce a second identification number. Further, if the channel field is merely copied to a different location as disclosed in Beuk there would be no need to determine “if the second identification number matches the first identification number,” as recited in claim 14. Appellants further assert that copying a field to another

field is not the same as correlating a request message with an acknowledge message, as recited in the present claims.

Additionally, Beuk specifically discloses that the channel field, included in the group frame 630, is used for identifying a communication channel. Each apparatus of Beuk includes channel activation means 240 for locally activating specific communication channels. The message sending means 200 only transmits a group frame 630 if the channel field specifies a channel which has been locally activated by the channel activation means 240 (Beuk, Column 11, line 67 - Column 12, line 7). Beuk further discloses that “the acknowledgement frame 640 for acknowledging a group frame 630 may comprise the same channel field as used for the group frame 630. In that case, the acknowledge sending means 220 will only transmit an acknowledgement frame, acknowledging the reception of the group frame, if the message receiving means 210 of Fig. 2 correctly receives a group frame, whose channel field specifies a locally activated channel. The acknowledge sending means 220 copies the channel identification from the channel field of the received group frame to the channel field of the acknowledgement frame” (Beuk, Column 12, lines 10-28).

Therefore, according to Beuk, the channel field is utilized to identify a communication channel. In addition, according to Beuk, a determination is made whether to transmit a group frame based on whether the channel field specifies a locally activated channel. However, Beuk does not disclose or suggest that the channel field is used to identify and correlate a specific request message with a corresponding acknowledgment message. Beuk merely discloses that the acknowledgment frame may include the same channel field as the group frame, and that the channel identification

may be copied from the channel field of the received group frame to the channel field of the acknowledgment frame. The channel identification, as suggested by its name, is used to identify the communication channel used. Beuk does not disclose or suggest that the channel field or channel identification is used to correlate a specific request message with a corresponding acknowledgment message, as recited in the present claims.

The final Office Action acknowledges that the channel field of Beuk is used to identify a communication channel, but alleges that the channel field also “correlates a packet request message with a corresponding request acknowledge message” (Office Action, page 16, line 19 – page 17, line 2). The final Office Action offers no rationale for this conclusion besides stating that the channel field is copied from the group frame 640 to the acknowledgment frame 640. However, as outlined above, the mere fact that Beuk discloses that the channel field may be copied from one location to another does not anticipate the limitation of “wherein the first identification number and the second identification number are configured to correlate the packet request message with a corresponding request acknowledge message,” as recited in claim 14.

Thus, for at least the reasons discussed above, Appellants respectfully submit that Beuk fails to disclose or suggest all of the elements of claim 14. Accordingly, the Board’s consideration and reversal of the rejection thereof is respectfully requested.

14) Claim 16

Claim 16 is dependent upon claim 14, and recites further limitations. Thus, claim 16 is patentable at least for the reasons claim 14 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

15) Claim 17

Claim 17 is dependent upon claim 14, and recites further limitations. Thus, claim 17 is patentable at least for the reasons claim 14 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

16) Claim 18

Claim 18 is dependent upon claim 14, and recites further limitations. Thus, claim 18 is patentable at least for the reasons claim 14 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

17) Claim 19

Claim 19 is dependent upon claim 14, and recites further limitations. Thus, claim 19 is patentable at least for the reasons claim 14 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

18) Claim 20

Claim 20 is dependent upon claim 14, and recites further limitations. Thus, claim 20 is patentable at least for the reasons claim 14 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

19) Claim 21

Claim 21 is dependent upon claim 14, and recites further limitations. Thus, claim 21 is patentable at least for the reasons claim 14 is patentable, and further, because it

recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

20) Claim 22

Claim 22 is dependent upon claim 14, and recites further limitations. Thus, claim 22 is patentable at least for the reasons claim 14 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

21) Claim 23

Claim 23 is dependent upon claim 14, and recites further limitations. Thus, claim 23 is patentable at least for the reasons claim 14 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

22) Claim 24

Claim 24 is dependent upon claim 14, and recites further limitations. Thus, claim 24 is patentable at least for the reasons claim 14 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

23) Claim 25

Claim 25 is dependent upon claim 14, and recites further limitations. Thus, claim 25 is patentable at least for the reasons claim 14 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

24) Claim 26

Claim 26 is dependent upon claim 14, and recites further limitations. Thus, claim 26 is patentable at least for the reasons claim 14 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

25) Claim 27

Claim 27 is dependent upon claim 14, and recites further limitations. Thus, claim 27 is patentable at least for the reasons claim 14 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

26) Claim 28

Claim 28, upon which claims 29-32 and 37-38 are dependent, recites an apparatus for controlling data flow across a link. The apparatus includes a first transmitting unit for transmitting a packet request message from a first station to a second station, said packet request message including a first identification number, a first control code group, and a first parity parameter associated therewith. The apparatus also includes a storage unit for storing the first identification number associated with the packet request message, and a second transmitting unit for transmitting a request acknowledge message from said second station to said first station, said request acknowledge message having second identification number, a second control group, and a second parity parameter associated therewith. The apparatus further includes at least one flow logic unit for determining if the first and second control groups are valid, determining if the second identification number matches the first identification number, and determining if the first and second parity parameters are valid. The first control group

and the second control group are configured to identify whether a frame is a control frame or a data frame. The first identification number and second identification number are configured to correlate the packet request message with a corresponding request acknowledge message.

Appellants respectfully submit that claim 28 recites subject matter which is neither disclosed nor suggested by Beuk.

As discussed above, Beuk discloses a system for communicating between a dynamic group of apparatuses. The system allows an apparatus to establish communication between a local application and applications in other apparatuses. An active activation unit invites applications in other apparatuses to join by using a message sending unit to transmit a broadcast frame to all apparatuses which requests activation of the selected application. The broadcast frame specifies which application is being activated. The active activation unit then determines a communication channel which corresponds to the application and the selected application, which is stored in storage, is executed by an execution unit. The broadcast frame is received by a message receiving unit in other apparatuses. A passive activation unit verifies whether the receiving apparatus has an application, which corresponds to the specified application and whether such an application needs to be activated (Col. 1, line 57 – Col. 3, line 25).

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Appellants submit, as will be discussed below, that Beuk fails to disclose or suggest each and every element of claim 28.

In particular, as discussed above with respect to claim 14, Beuk fails to disclose or suggest that the first identification number and the second identification number are configured to correlate the packet request message with a corresponding request acknowledge message, as recited in claim 28. In one embodiment of the present invention, the packet request message and the request acknowledge message both include an identification string.

As mentioned above, according to an aspect of the invention, this identification string is used to identify and correlate a specific packet request message with the corresponding request acknowledge message. Through implementation of this correlation scheme, accurate flow control across a high speed link is generated and, therefore, queue or buffer management requirements are reduced at the receiving end (Specification, page 108, lines 19-28). Appellants respectfully assert that Beuk fails to disclose or suggest that the identification strings are configured to correlate the packet request message with the corresponding request acknowledge message, as recited in the present claims.

The final Office Action took the position that the identification bit string correlating the packet request message with a corresponding request acknowledge message “is anticipated by the channel field (first identification number) shown in group frame 630 (packet request message) of figure 3 that is copied (correlates) to the channel field (second identification number) of acknowledgement frame 640 (request acknowledgment message) of figure 3 and that is used to filter acknowledgement messages as spoken of on column 4, lines 38-48 and column 12, lines 19-28” (Office Action, page 8, lines 15-22). Appellants respectfully disagree with the final Office

Action's rationale. Appellants respectfully assert that copying a first identification number to another location does not produce a second identification number. Further, if the channel field is merely copied to a different location as disclosed in Beuk there would be no need to determine "if the second identification number matches the first identification number," as recited in claim 28. Appellants further assert that copying a field to another field is not the same as correlating a request message with an acknowledge message, as recited in the present claims.

Additionally, Beuk specifically discloses that the channel field, included in the group frame 630, is used for identifying a communication channel. Each apparatus of Beuk includes channel activation means 240 for locally activating specific communication channels. The message sending means 200 only transmits a group frame 630 if the channel field specifies a channel which has been locally activated by the channel activation means 240 (Beuk, Column 11, line 67 - Column 12, line 7). Beuk further discloses that "the acknowledgement frame 640 for acknowledging a group frame 630 may comprise the same channel field as used for the group frame 630. In that case, the acknowledge sending means 220 will only transmit an acknowledgement frame, acknowledging the reception of the group frame, if the message receiving means 210 of Fig. 2 correctly receives a group frame, whose channel field specifies a locally activated channel. The acknowledge sending means 220 copies the channel identification from the channel field of the received group frame to the channel field of the acknowledgement frame" (Beuk, Column 12, lines 10-28).

Therefore, according to Beuk, the channel field is utilized to identify a communication channel. In addition, according to Beuk, a determination is made

whether to transmit a group frame based on whether the channel field specifies a locally activated channel. However, Beuk does not disclose or suggest that the channel field is used to identify and correlate a specific request message with a corresponding acknowledgment message. Beuk merely discloses that the acknowledgment frame may include the same channel field as the group frame, and that the channel identification may be copied from the channel field of the received group frame to the channel field of the acknowledgment frame. The channel identification, as suggested by its name, is used to identify the communication channel used. Beuk does not disclose or suggest that the channel field or channel identification is used to correlate a specific request message with a corresponding acknowledgment message, as recited in the present claims.

The final Office Action acknowledges that the channel field of Beuk is used to identify a communication channel, but alleges that the channel field also “correlates a packet request message with a corresponding request acknowledge message” (Office Action, page 16, line 19 – page 17, line 2). The final Office Action offers no rationale for this conclusion besides stating that the channel field is copied from the group frame 640 to the acknowledgment frame 640. However, as outlined above, the mere fact that Beuk discloses that the channel field may be copied from one location to another does not anticipate the limitation of “wherein the first identification number and the second identification number are configured to correlate the packet request message with a corresponding request acknowledge message,” as recited in claim 28.

Thus, for at least the reasons discussed above, Appellants respectfully submit that Beuk fails to disclose or suggest all of the elements of claim 28. Accordingly, the Board’s consideration and reversal of the rejection thereof is respectfully requested.

27) Claim 29

Claim 29 is dependent upon claim 28, and recites further limitations. Thus, claim 29 is patentable at least for the reasons claim 28 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

28) Claim 30

Claim 30 is dependent upon claim 28, and recites further limitations. Thus, claim 30 is patentable at least for the reasons claim 28 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

29) Claim 31

Claim 31 is dependent upon claim 28, and recites further limitations. Thus, claim 31 is patentable at least for the reasons claim 28 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

30) Claim 32

Claim 32 is dependent upon claim 28, and recites further limitations. Thus, claim 32 is patentable at least for the reasons claim 28 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

31) Claim 33

Claim 33 is dependent upon claim 28, and recites further limitations. Thus, claim 33 is patentable at least for the reasons claim 28 is patentable, and further, because it

recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

32) Claim 34

Claim 34 is dependent upon claim 28, and recites further limitations. Thus, claim 34 is patentable at least for the reasons claim 28 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

33) Claim 35

Claim 35 is dependent upon claim 28, and recites further limitations. Thus, claim 35 is patentable at least for the reasons claim 28 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

34) Claim 36

Claim 36 is dependent upon claim 28, and recites further limitations. Thus, claim 36 is patentable at least for the reasons claim 28 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

35) Claim 37

Claim 37 is dependent upon claim 28, and recites further limitations. Thus, claim 37 is patentable at least for the reasons claim 28 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

36) Claim 38

Claim 38 is dependent upon claim 28, and recites further limitations. Thus, claim 38 is patentable at least for the reasons claim 28 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

B. Claims 13 and 15 are non-obvious over Beuk in view of Meyer

Claims 13 and 15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Beuk in view of Meyer (U.S. Patent No. 6,611,495). The final Office Action took the position that Beuk teaches all of the elements of claims 13 and 15, with the exception of the starting of a timer upon transmission of a packet request message and retransmitting the message if a predetermined period of time has passed. The final Office Action then relies upon Meyer to cure the deficiency in Beuk.

Appellants submit that each of claims 13 and 15 recite subject matter that is not taught or disclosed by the combination of Beuk and Meyer, and as such, the Board's reversal of the rejection is respectfully requested.

1) Claim 13

Claim 13 is dependent upon claim 1, and additionally recites "starting a timer upon transmitting the packet request message; determining if a predetermined period of time has expired; and resending the packet request message if the timer is determined to have expired."

Beuk is discussed above. Meyer discloses a system and method for improved data transfer in packet-switched communication networks. A sender receives an acknowledgement message indicating that the intended recipient received a data packet, and a retransmission timer is initialized with a value that compensates for the time lag

between the transmission of a data packet by the sender and the receipt of an acknowledgement message.

Appellants respectfully submit that Meyer fails to cure the deficiencies in Beuk with respect to claim 1. Meyer, like Beuk, does not disclose or suggest “wherein said step of transmitting a packet request message further comprises the step of generating the packet request message, the step of generating the packet request message comprising generating a request non-payload bit string corresponding to a pre-programmed packet request register,” and “wherein the packet request message and the request acknowledge message each include a control bit string, an identification bit string, and at least one parity bit,” as recited in claim 1. Therefore, the combination of Beuk and Meyer fails to disclose or suggest all of the elements of claim 13.

Thus, claim 13 is patentable at least for the reasons claim 1 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

2) Claim 15

Claim 15 is dependent upon claim 14, and additionally recites “starting a timer upon transmitting the packet request message; determining if a predetermined period of time has expired; and re-transmitting the packet request message if the predetermined period of time is determined to have expired.”

Appellants submit that Meyer, like Beuk, fails to disclose or suggest all of the elements of claim 14. Both Meyer and Beuk fail to disclose or suggest that the first identification number and the second identification number are configured to correlate the packet request message with a corresponding request acknowledge message, as

recited in claim 14. . Therefore, the combination of Beuk and Meyer fails to disclose or suggest all of the elements of claim 15.

Thus, claim 15 is patentable at least for the reasons claim 14 is patentable, and further, because it recites additional limitations. Accordingly, it is respectfully requested that this rejection be reversed and this claim allowed.

For all of the above noted reasons, it is strongly contended that certain clear differences exist between the present invention as claimed in claims 1, 2, and 4-38 and the prior art relied upon by the Examiner. It is further contended that these differences are more than sufficient that the present invention would not have been obvious to a person having ordinary skill in the art at the time the invention was made.

This final rejection being in error, therefore, it is respectfully requested that this honorable Board of Patent Appeals and Interferences reverse the Examiner's decision in this case and indicate the allowability of application claims 1, 2 and 4-38.

In the event that this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees which may be due with respect to this paper may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

SQUIRE, SANDERS & DEMPSEY LLP

A handwritten signature in black ink, appearing to read 'Majid S. AlBassam', is positioned above the printed name.

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Encls: Appendix 1 - Claims on Appeal
Appendix 2 - Evidence
Appendix 3 - Related Proceedings
Appendix 4 - Drawings

APPENDIX 1
CLAIMS ON APPEAL

1. (Previously Presented) A method for controlling data flow across a link, said method comprising the steps of:

transmitting a packet request message from a first station to a second station;
determining if the packet request message is valid;
transmitting a request acknowledge message from the second station to the first station;
determining if the request acknowledge message is valid,
wherein said step of transmitting a packet request message further comprises the step of generating the packet request message, the step of generating the packet request message comprising generating a request non-payload bit string corresponding to a pre-programmed packet request register,
wherein the packet request message and the request acknowledge message each include a control bit string, an identification bit string, and at least one parity bit, and
wherein said control bit string identifies whether a frame is a control frame or a data frame and said identification bit string correlates the packet request message with a corresponding request acknowledge message.

2. (Previously Presented) A method for controlling data flow across a link as recited in claim 1, wherein said generated packet request message includes a request control code group and a request data code group.

3. (Canceled).

4. (Original) A method for controlling data flow across a link as recited in claim 2, wherein said step of generating the packet request message having a request data code group further comprises generating a request data code group bit string having at least one request parity bit and at least one request identification bit.

5. (Original) A method for controlling data flow across a link as recited in claim 4, wherein said step of generating the packet request message having at least one request parity bit further comprises generating a first request parity bit corresponding to a parity of said request control code group bit string and a second request parity bit corresponding to a parity of said request data code group.

6. (Original) A method for controlling data flow across a link as recited in claim 1, wherein said step of transmitting a request acknowledge message further comprises the step of generating the request acknowledge message, wherein the request acknowledge message includes an acknowledge control code group and an acknowledge data code group.

7. (Original) A method for controlling data flow across a link as recited in claim 6, wherein said step of transmitting a request acknowledge message having an acknowledge control code group further comprises generating an acknowledge

non-payload bit string corresponding to a pre-programmed packet acknowledge register.

8. (Original) A method for controlling data flow across a link as recited in claim 6, wherein said step of transmitting a request acknowledge message having an acknowledge data code group further comprises generating an acknowledge data bit string having at least one acknowledge parity bit and at least one acknowledge identification bit.

9. (Original) A method for controlling data flow across a link as recited in claim 8, wherein said at least one acknowledge parity bit further comprises a first acknowledge parity bit corresponding to a parity of said acknowledge control code group and a second acknowledge parity bit corresponding to a parity of said acknowledge data code group.

10. (Original) A method for controlling data flow across a link as recited in claim 1, wherein said step of determining if the packet request message is valid further comprises determining if at least one request parity bit for the packet request message is valid and determining if a request control code group message is valid.

11. (Original) A method for controlling data flow across a link as recited in claim 1, wherein said step of determining if the request acknowledge message is valid further comprises the steps of:

comparing an acknowledge identification parameter associated with the request acknowledge message to a stored list of valid acknowledge identification parameters;

determining if an acknowledge control code group associated with the request acknowledge message is valid; and

determining if at least one acknowledge parity parameter is satisfied.

12. (Original) A method for controlling data flow across a link as recited in claim 11, wherein said step of determining if at least one acknowledge parity parameter is satisfied further comprises determining if a first acknowledge parity bit associated with the acknowledge identification parameter is satisfied and determining if a second acknowledge parity bit associated with the acknowledge control code group is satisfied.

13. (Original) A method for controlling data flow across a link as recited in claim 1, said method further comprising the steps of:

starting a timer upon transmitting the packet request message;

determining if a predetermined period of time has expired; and

resending the packet request message if the timer is determined to have expired.

14. (Previously Presented) A data flow control method for controlling data transmitted across a high speed link, said method comprising the steps of:

transmitting a packet request message from a first station to a second station, said packet request message having a first identification number, a first control code group, and a first parity parameter associated therewith;

storing the first identification number associated with the packet request message;

transmitting a request acknowledge message from said second station to said first

station, said request acknowledge message having a second identification number, a second control group, and a second parity parameter associated therewith;

determining if the first and second control groups are valid;

determining if the second identification number matches the first identification number;

determining if the first and second parity parameters are valid;

wherein the first control group and the second control group are configured to identify whether a frame is a control frame or a data frame, and wherein the first identification number and the second identification number are configured to correlate the packet request message with a corresponding request acknowledge message.

15. (Original) A data flow control method for controlling data transmitted across a high speed link as recited in claim 14, said method further comprising the steps of:

starting a timer upon transmitting the packet request message;

determining if a predetermined period of time has expired; and

re-transmitting the packet request message if the predetermined period of time is determined to have expired.

16. (Original) A data flow control method for controlling data transmitted across a high speed link as recited in claim 14, wherein said step of transmitting a packet request message step further comprises the step of generating the packet request message, wherein said generated packet request message includes a first control group bit string, a first identification number bit string, a first parity bit corresponding to the first control

group bit string, and a second parity bit corresponding to the identification number bit string.

17. (Original) A data flow control method for controlling data transmitted across a high speed link as recited in claim 14, wherein said transmitting a request acknowledge message step further comprises generating the request acknowledge message, wherein said generated request acknowledge message includes a second control group bit string, a second identification number bit string, a third parity bit corresponding to the second control group bit string, and a fourth parity bit corresponding to the second identification number bit string.

18. (Original) A data flow control method for controlling data transmitted across a high speed link as recited in claim 14, wherein said step of determining if the second identification number matches the first identification number further comprises the steps of:

comparing the first identification number to the second identification number; and
determining if the first identification number is identical to the second identification number.

19. (Original) A data flow control method for controlling data transmitted across a high speed link as recited in claim 14, wherein said step of determining if said first and second control groups are valid further comprises the steps of:

receiving the first and second control groups in a flow logic control module; and

determining if the first and second control groups are of a valid and recognized format.

20. (Original) A data flow control method for controlling data transmitted across a high speed link as recited in claim 14, wherein said transmitting a packet request message further comprises transmitting the packet request message, wherein the first parity parameter further comprises a request identification parity bit and a request control code group parity bit.

21. (Original) A data flow control method for controlling data transmitted across a high speed link as recited in claim 20, wherein said step of determining if a first parity parameter is valid further comprises the steps of determining if the request identification parity bit is valid and determining if the request control code group parity bit is valid.

22. (Original) A data flow control method for controlling data transmitted across a high speed link as recited in claim 21, wherein said step of determining if the request identification parity bit is valid further comprises the step of determining if the request identification parity bit represents the parity of the first identification number.

23. (Original) A data flow control method for controlling data transmitted across a high speed link as recited in claim 21, wherein said step of determining if the request control code group parity bit is valid further comprises the step of determining if the request control code group parity bit represents the parity of the first control code group.

24. (Original) A data flow control method for controlling data transmitted across a high speed link as recited in claim 14, wherein said transmitting a request acknowledge message further comprises transmitting the request acknowledge message, wherein the second parity parameter further comprises an acknowledge identification parity bit and an acknowledge control code group parity bit.

25. (Original) A data flow control method for controlling data transmitted across a high speed link as recited in claim 24, wherein said step of determining if a second parity parameter is valid further comprises the steps of determining if the acknowledge identification parity bit is valid and determining if the acknowledge control code group parity bit is valid.

26. (Original) A data flow control method for controlling data transmitted across a high speed link as recited in claim 25, wherein said step of determining if the acknowledge identification parity bit is valid further comprises the step of determining if the acknowledge identification parity bit represents the parity of the second identification number.

27. (Original) A data flow control method for controlling data transmitted across a high speed link as recited in claim 25, wherein said step of determining if the acknowledge control code group parity bit is valid further comprises the step of determining if the acknowledge control code group parity bit represents the parity of the second control

code group.

28. (Previously Presented) An apparatus for controlling data flow across a link, said apparatus comprising:

a first transmitting unit for transmitting a packet request message from a first station to a second station, said packet request message including a first identification number, a first control code group, and a first parity parameter associated therewith;

storage unit for storing the first identification number associated with the packet request message;

a second transmitting unit for transmitting a request acknowledge message from said second station to said first station, said request acknowledge message having a second identification number, a second control group, and a second parity parameter associated therewith; and

at least one flow logic unit for determining if the first and second control groups are valid, determining if the second identification number matches the first identification number, and determining if the first and second parity parameters are valid;

wherein the first control group and the second control group are configured to identify whether a frame is a control frame or a data frame, and wherein the first identification number and the second identification number are configured to correlate the packet request message with a corresponding request acknowledge message.

29. (Original) An apparatus for controlling data flow in across a link as recited in claim 28, wherein said first transmitting unit further comprises a first high speed interface of a first

network switch.

30. (Original) An apparatus for controlling data flow in across a link as recited in claim 28, wherein said second transmitting unit further comprises a second high speed interface of a second network switch.

31. (Original) An apparatus for controlling data flow in across a link as recited in claim 28, wherein said storage unit further comprises a memory within said first transmitting unit.

32. (Original) An apparatus for controlling data flow in across a link as recited in claim 28, wherein said at least one flow logic unit further comprises:

a first flow control logic module, said first flow control logic module being positioned within a first network switch; and

a second flow control logic module, said second flow control logic module being positioned within a second network switch.

33. (Original) A method as recited in claim 1, wherein said step of transmitting a packet request message comprises transmitting a packet request ordered set.

34. (Original) A method as recited in claim 1, wherein said step of transmitting a request acknowledge message comprises transmitting a request acknowledge ordered set.

35. (Original) A method as recited in claim 14, wherein said step of transmitting a packet

request message comprises transmitting a packet request ordered set.

36. (Original) A method as recited in claim 14, wherein said step of transmitting a request acknowledge message comprises transmitting a request acknowledge ordered set.

37. (Original) An apparatus as recited in claim 28, wherein said packet request message comprises a packet request ordered set.

38. (Original) An apparatus as recited in claim 28, wherein said request acknowledge message comprises a request acknowledge ordered set.

APPENDIX 2

EVIDENCE APPENDIX

No evidence under section 37 C.F.R. 1.130, 1.131, or 1.132 has been entered or will be relied upon by Appellants in this appeal.

APPENDIX 3

RELATED PROCEEDINGS APPENDIX

No decisions of the Board or of any court have been identified under 37 C.F.R.

§41.37(c)(1)(ii).

APPENDIX 4

DRAWINGS OF APPLICATION SERIAL NO. 09/709,532



Fig.1

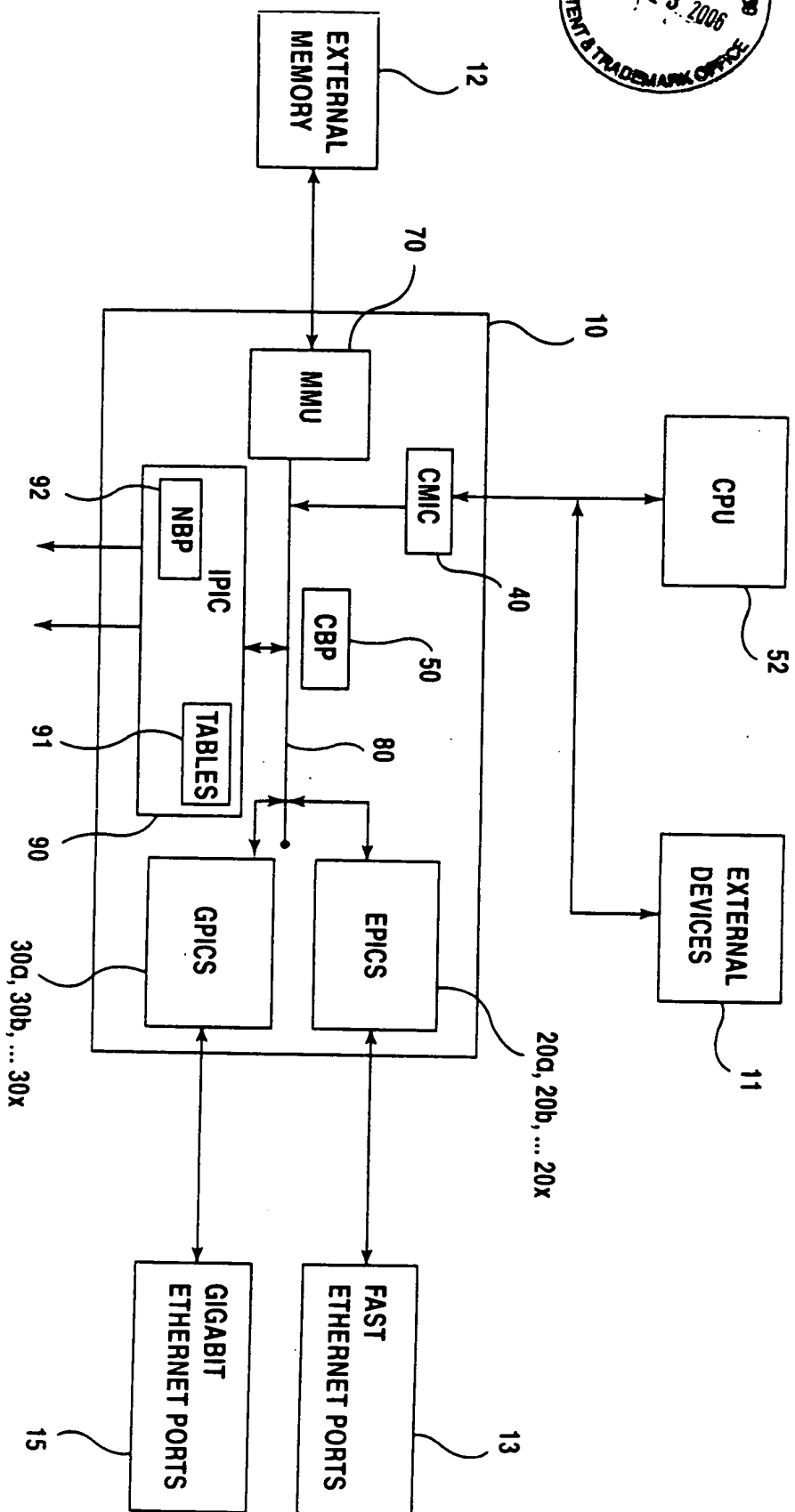


Fig.2

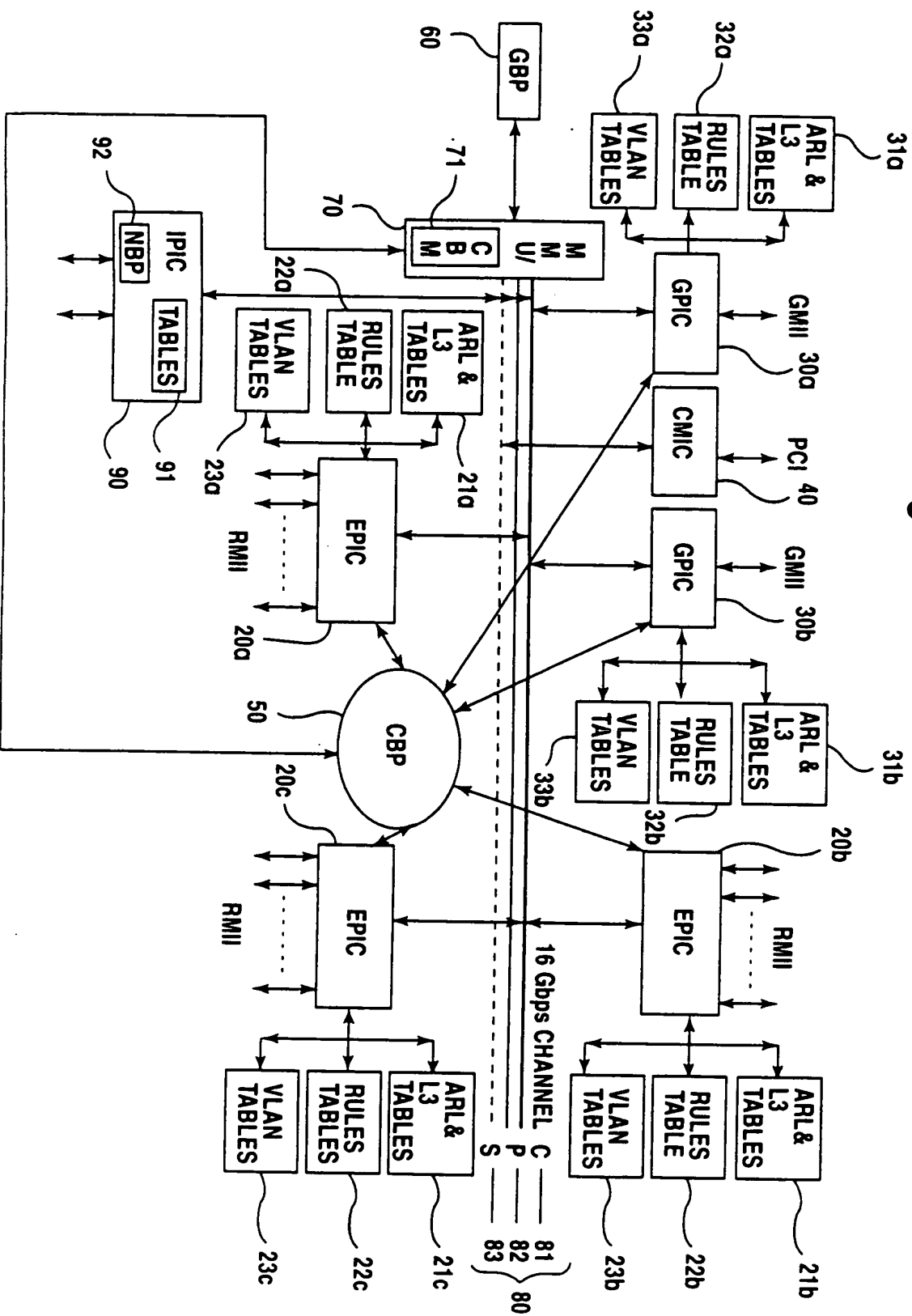
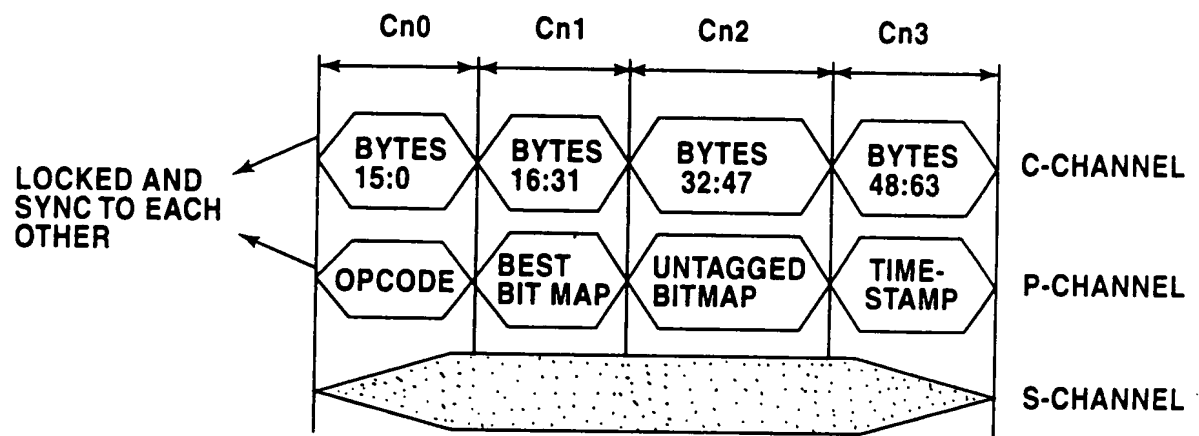


Fig.3



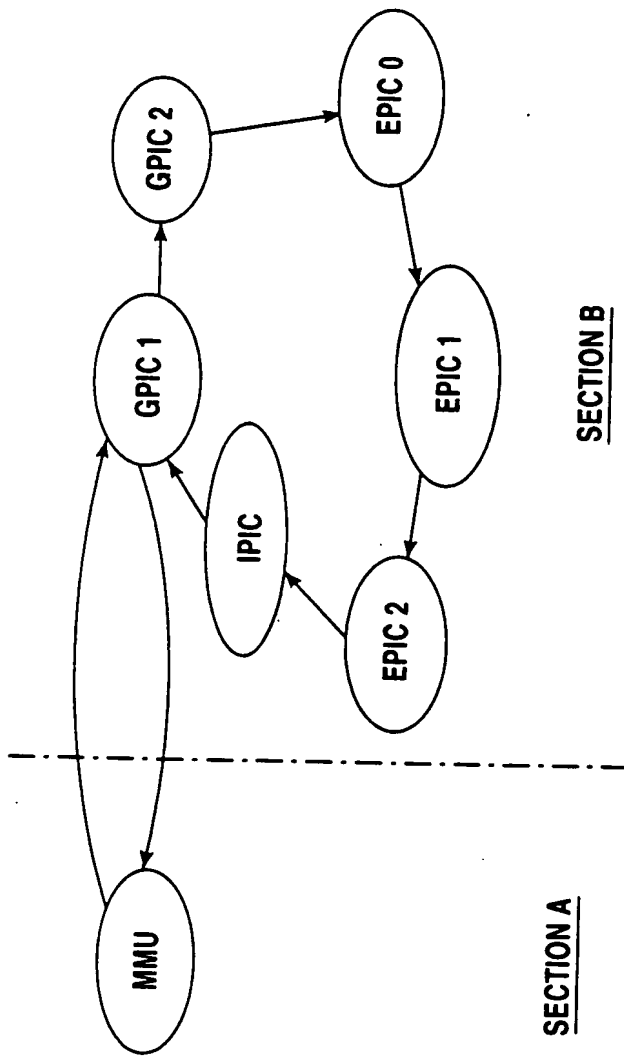


Fig. 4a

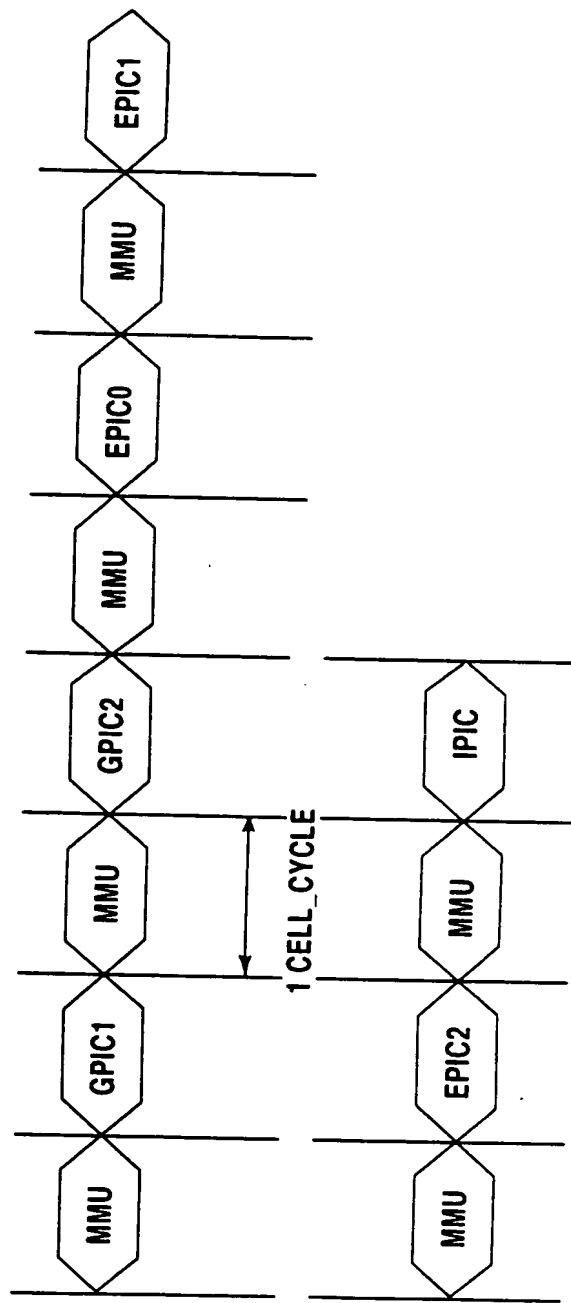


Fig. 4b

Fig.5

PROTOCOL CHANNEL MESSAGES

30	28	26	24	22	20	18	16	14	12	10	8	6	4	2	0
OPC ODE	IP IPX	RESE RVED	NXT CELL	SRC DEST PORT			COS		J	S	E	CRC	P	O	LEN

62	60	58	56	54	52	50	48	46	44	42	40	38	36	34	32
MODULE ID BITMAP															

30	28	26	24	22	20	18	16	14	12	10	8	6	4	2	0
R	Bc / Mc PORTBITMAP														

62	60	58	56	54	52	50	48	46	44	42	40	38	36	34	32		
PF M	NEW IP CHECKSUM								M	MT-MOD ID			T	TGID		MOD OPCODE	c

30	28	26	24	22	20	18	16	14	12	10	8	6	4	2	0
U	UNTAGGED PORTBITMAP / SRC PORT NUMBER (bit0...5)														

62	60	58	56	54	52	50	48	46	44	42	40	38	36	34	32
RSVD		MATCHED FILTER		VLAN ID						SRC PORT			REMOTE PORT		

30	28	26	24	22	20	18	16	14	12	10	8	6	4	2	0
CPU OPCODES									TIME STAMP						

62	60	58	56	54	52	50	48	46	44	42	40	38	36	34	32
R	L3 PORT BITMAP														

Fig.6

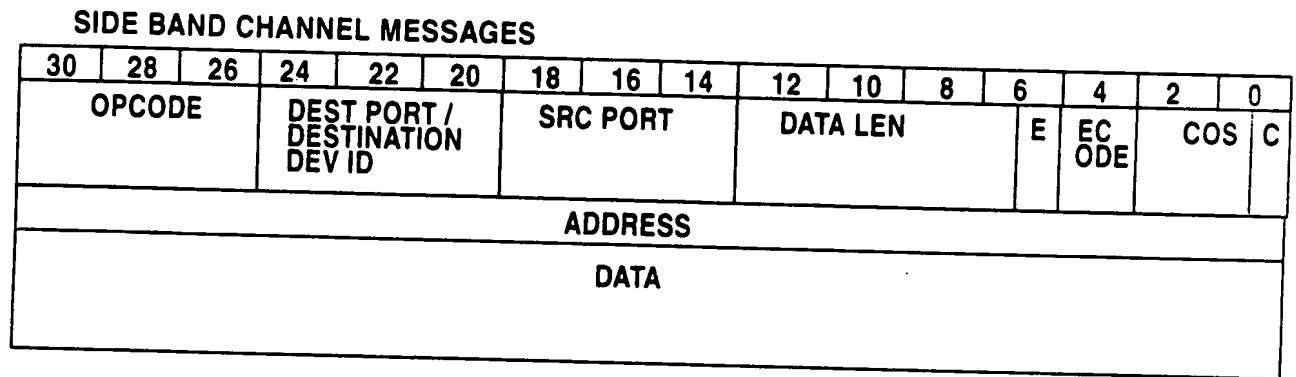
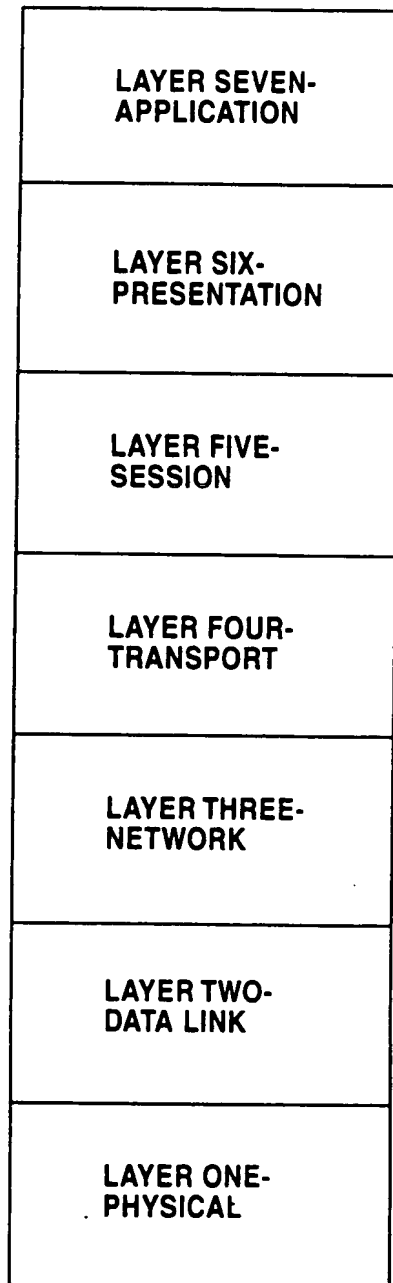


Fig.7

PRIOR ART



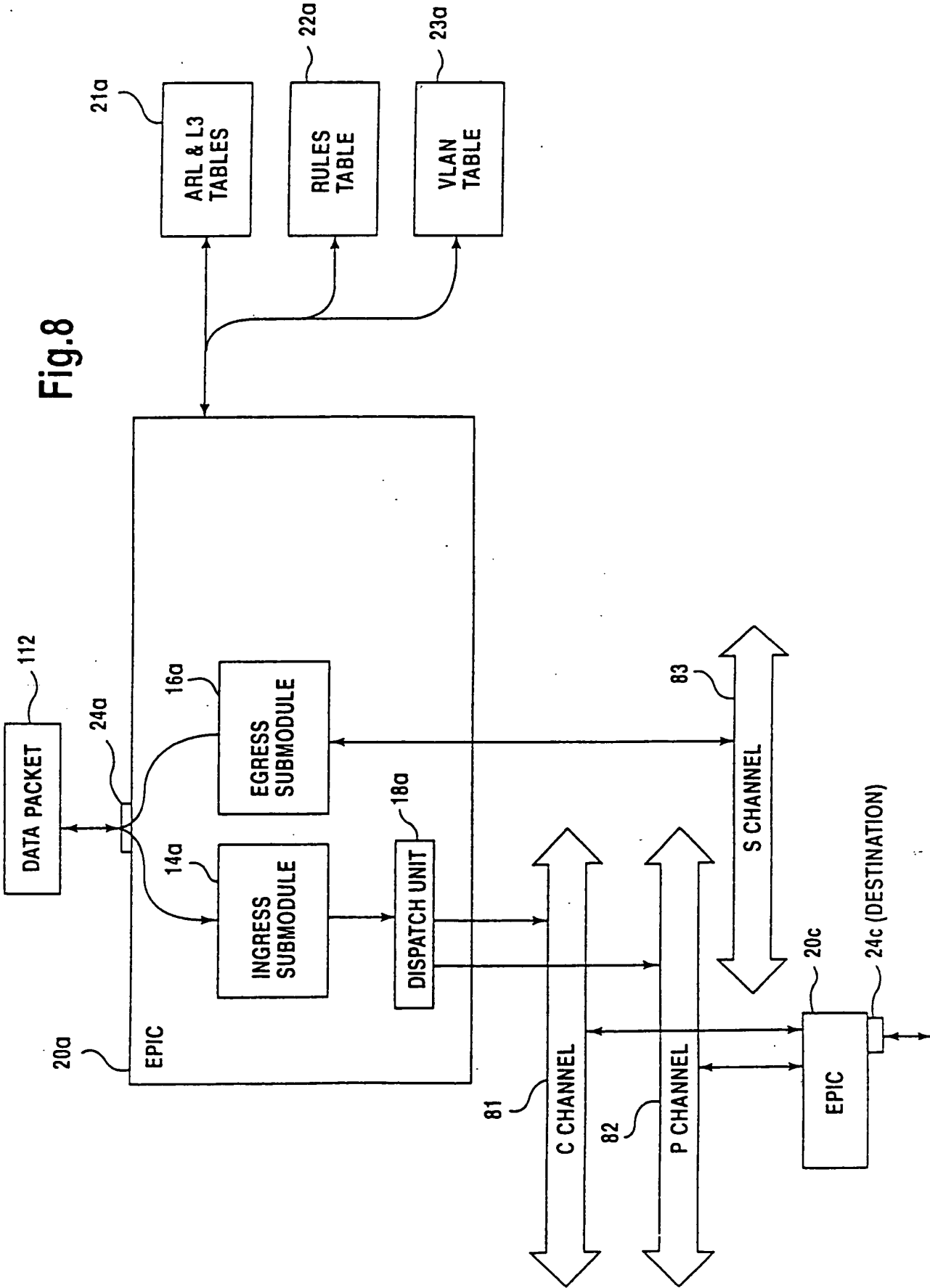


Fig.9

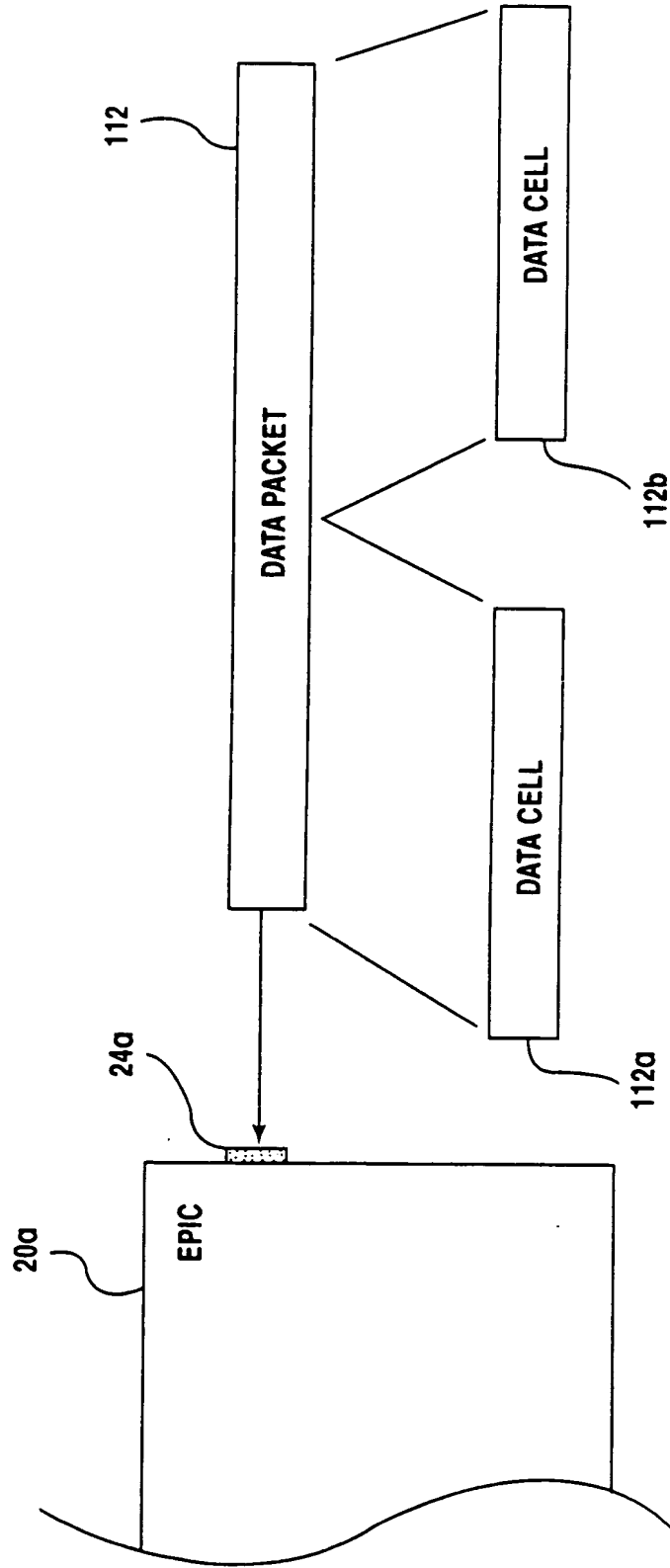


Fig.10

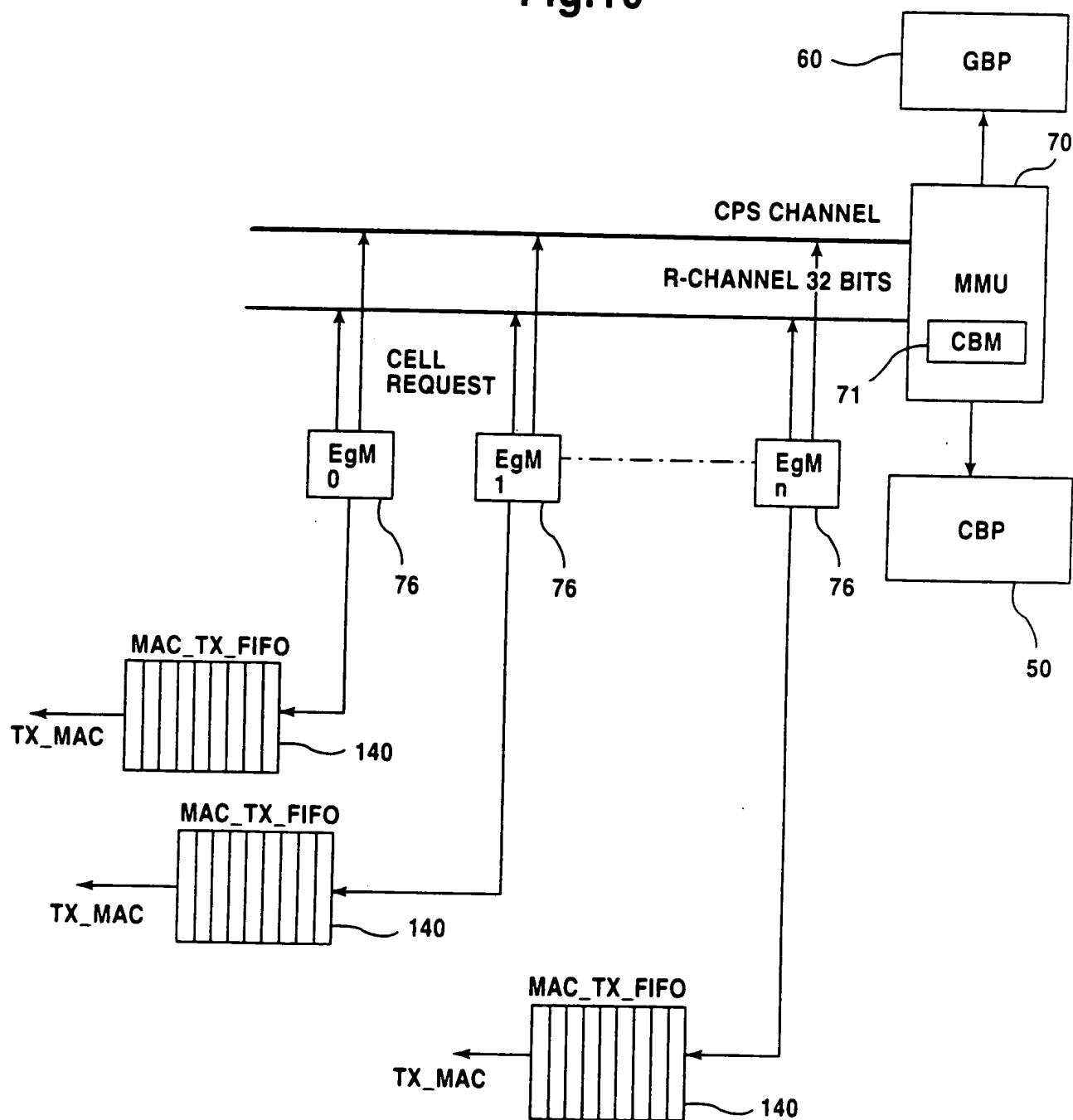


Fig.11

LINE 0 →	FC LC BC/MC Cpy_cnt (5b) Cell_length (7b) CRC (2b) NC_header (16b) Src Count (6) IPX IP Time_Stamp (14b) O bits (2b) P NextCellLen (2b) CpuOpcode (4b) Cell_data (0-9B)
LINE 1 →	Cell_data (10-27) Bytes
LINE 2 →	Cell_data (28-45) Bytes
LINE 3 →	Cell_data (45-63) Bytes

Fig.12

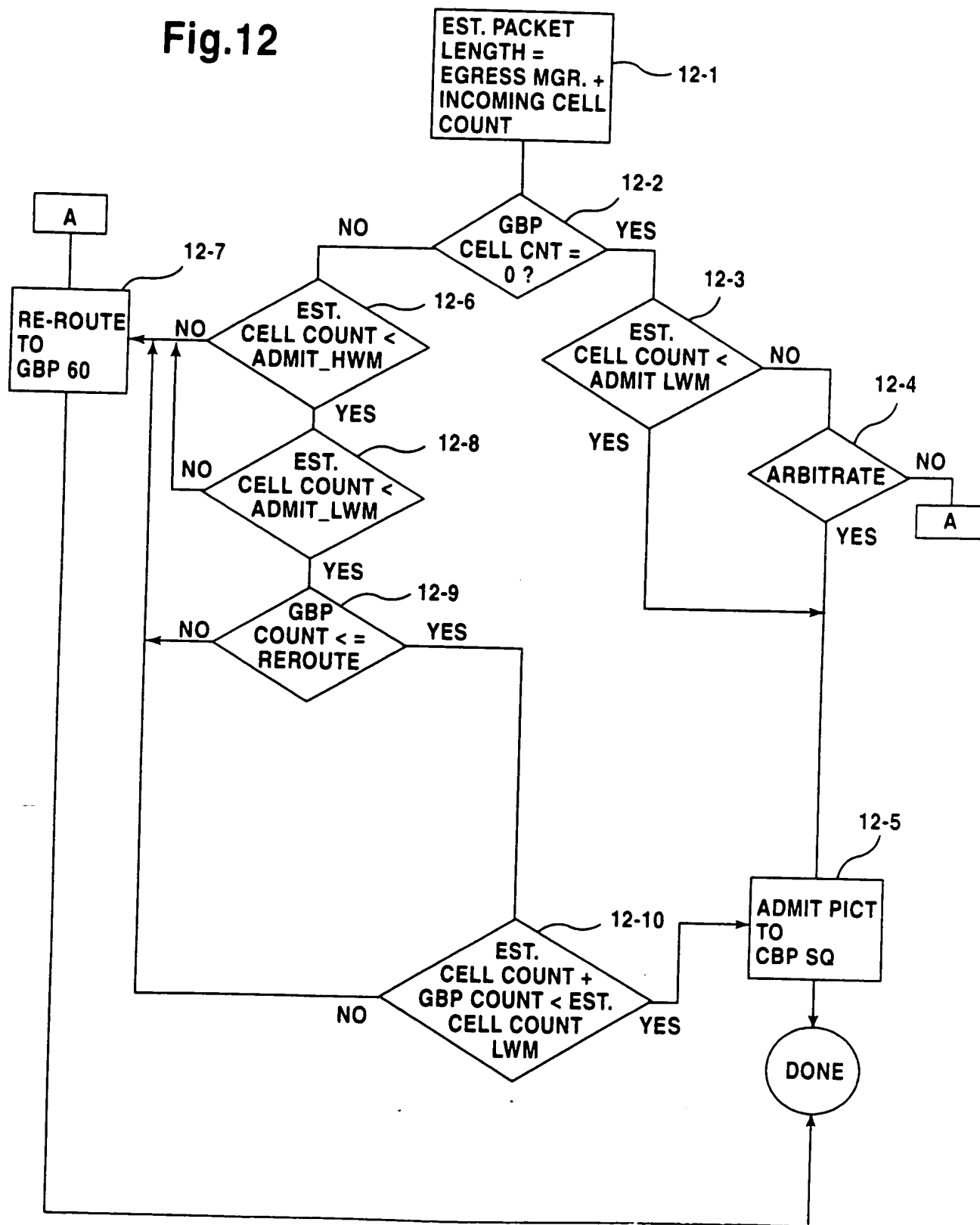


Fig.13

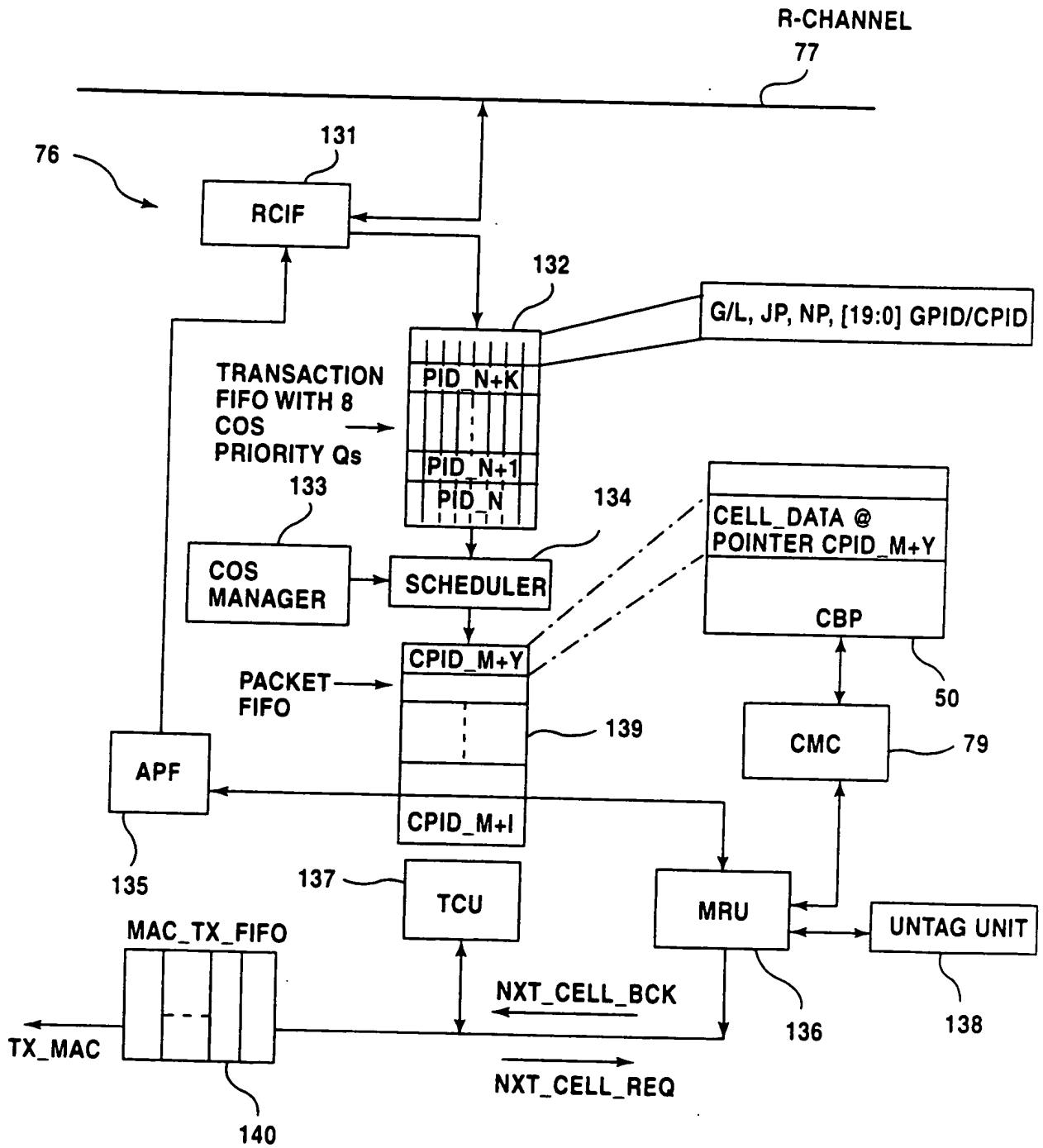


Fig.14

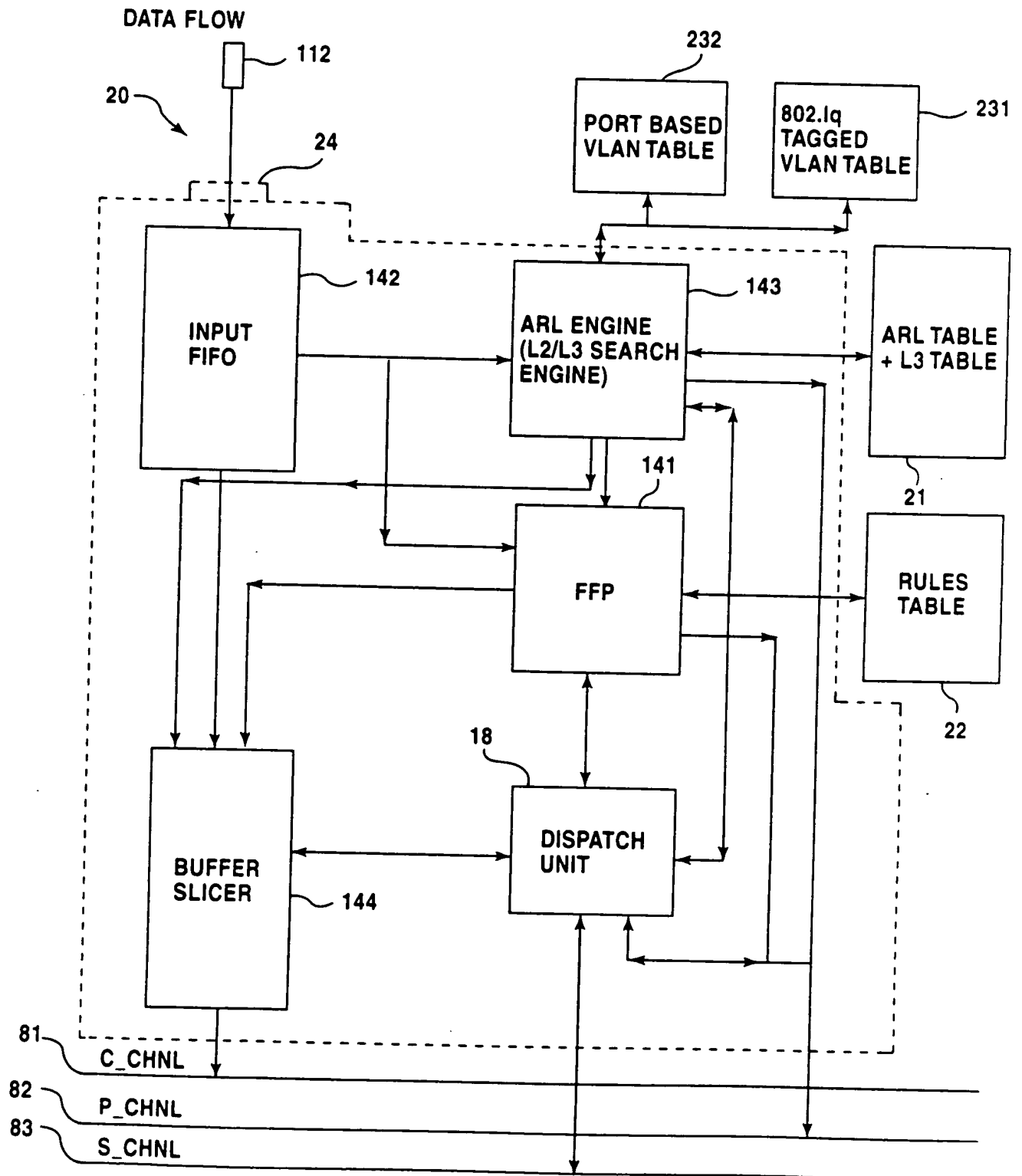


Fig.15

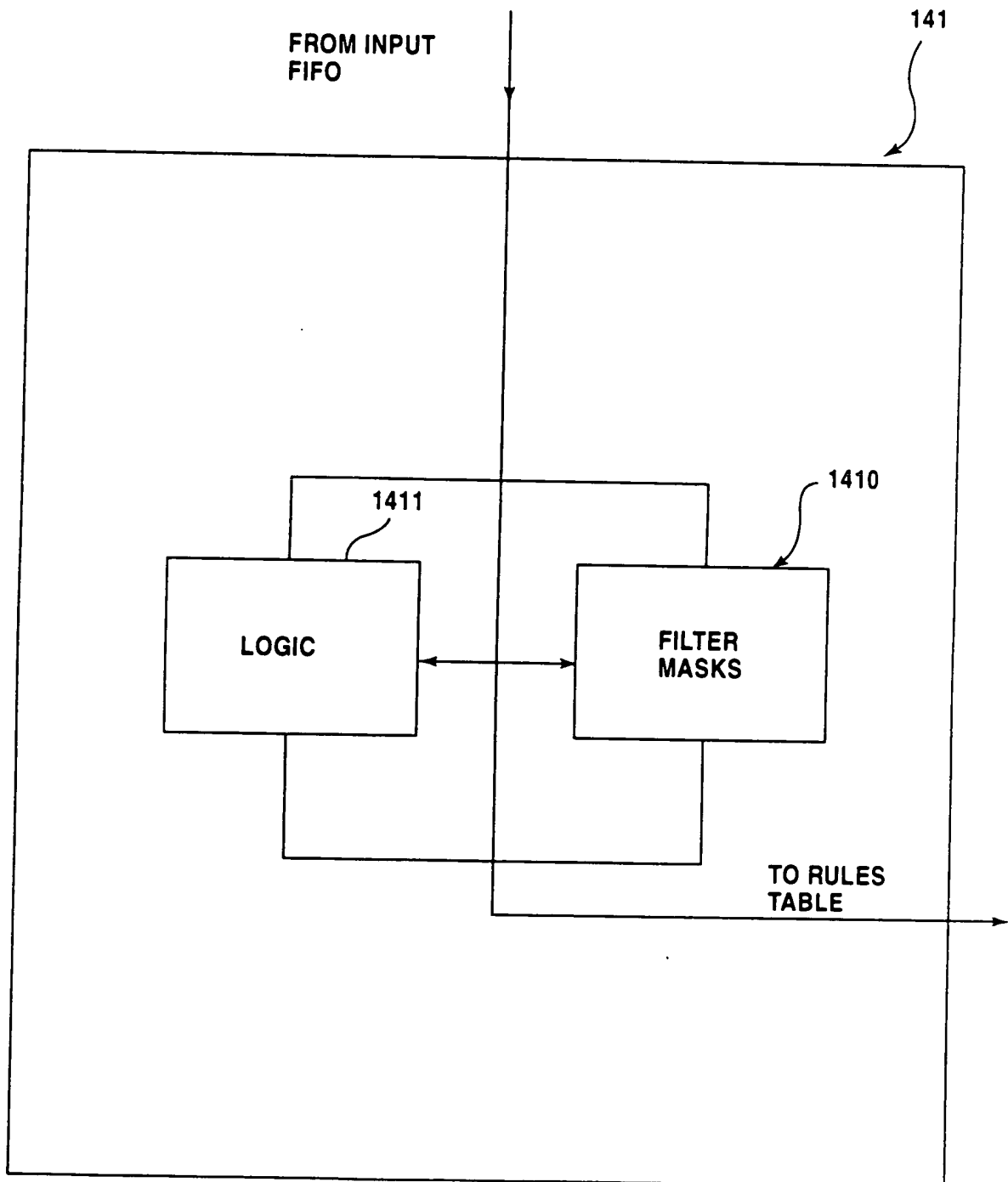


Fig.16

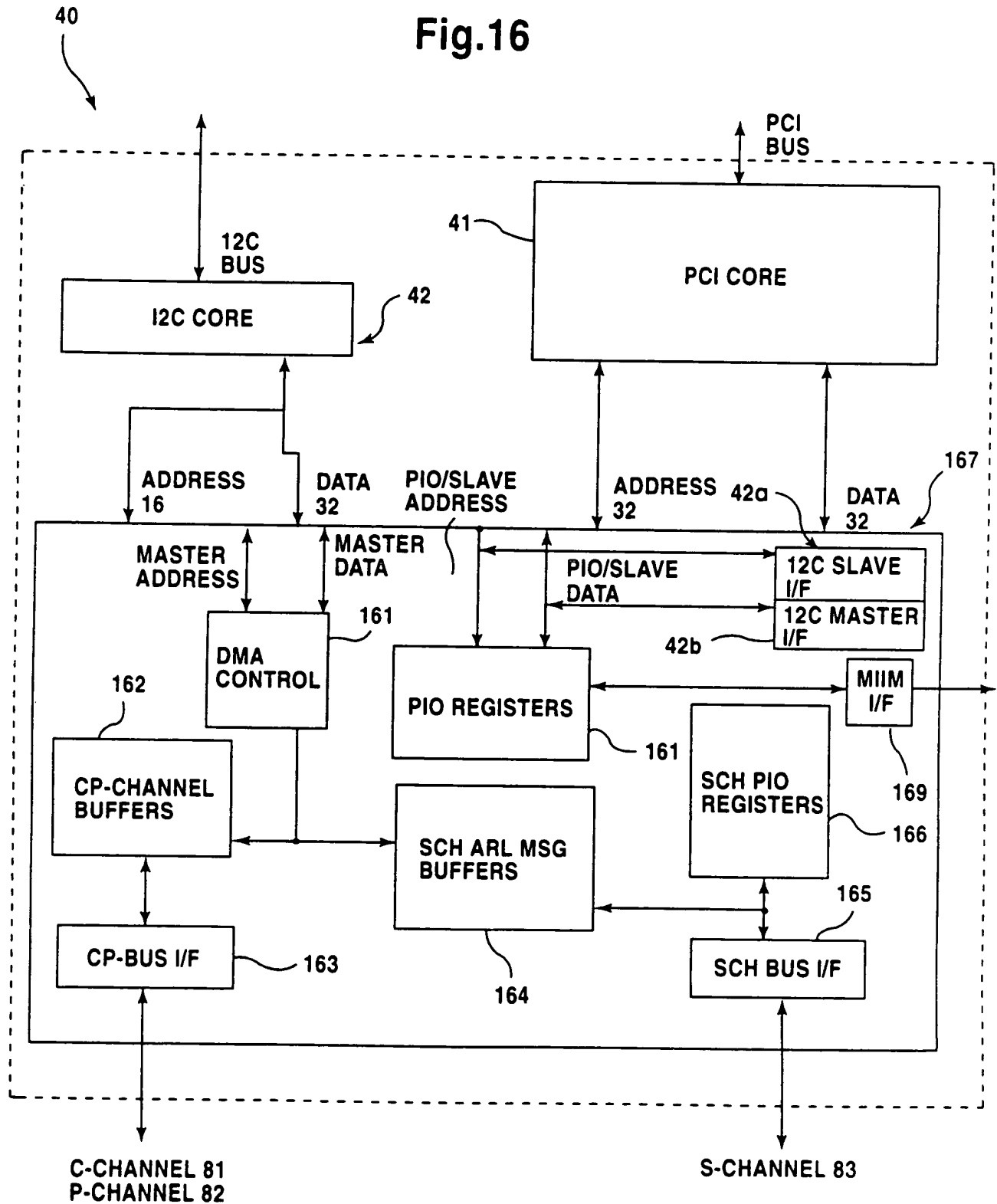


Fig.17

FFP PROGRAMMING FLOW CHART

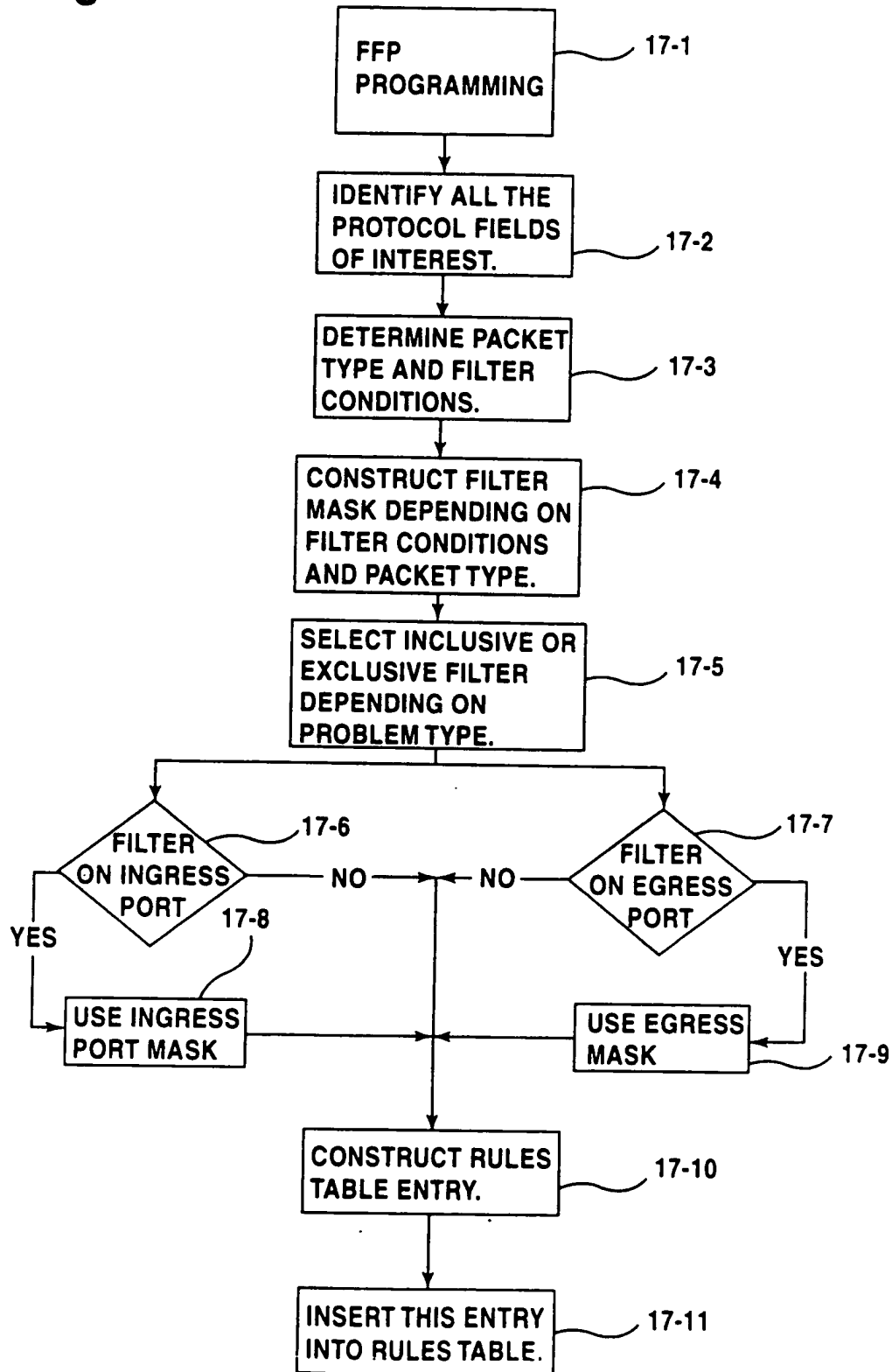


Fig.18

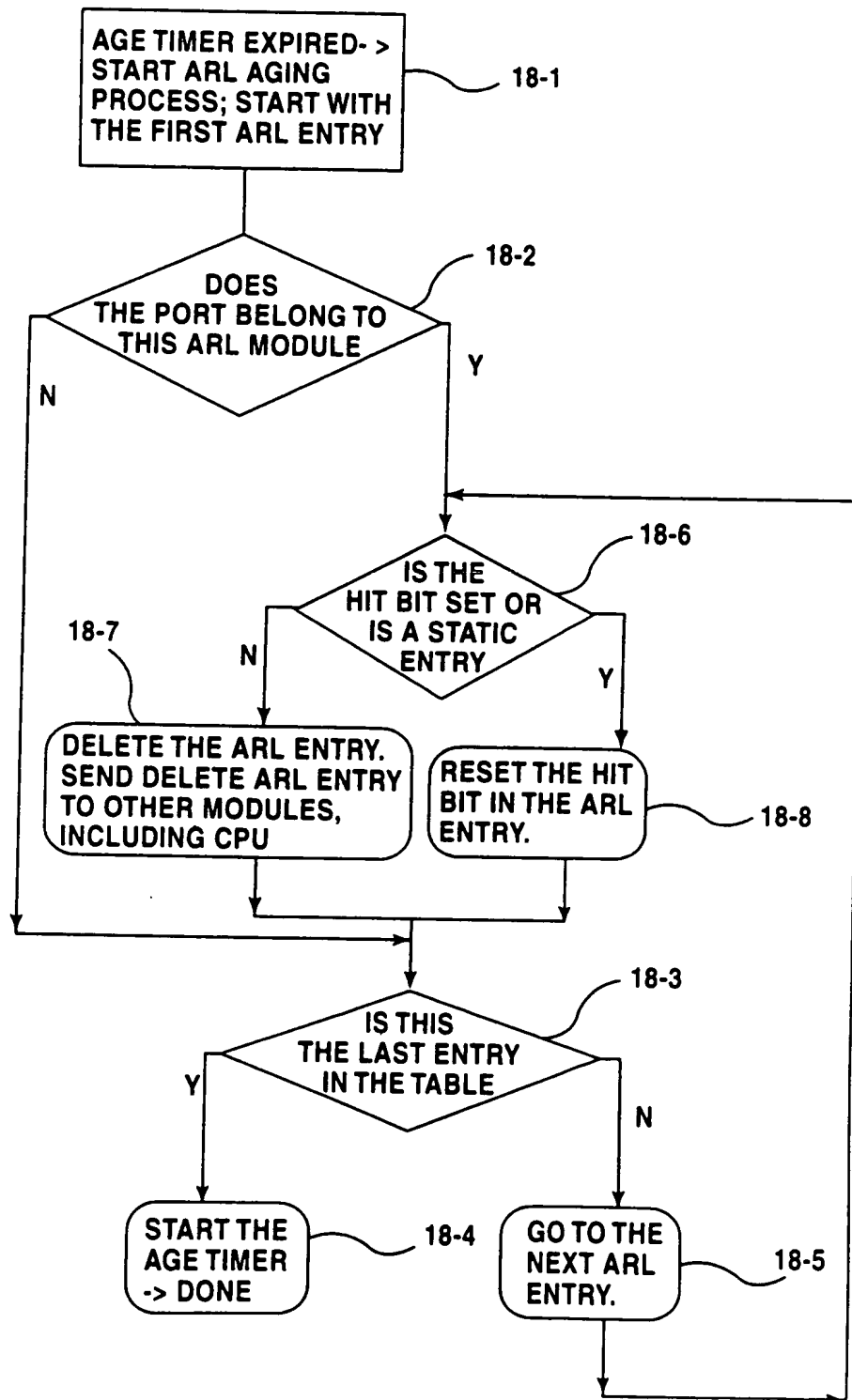


Fig.19

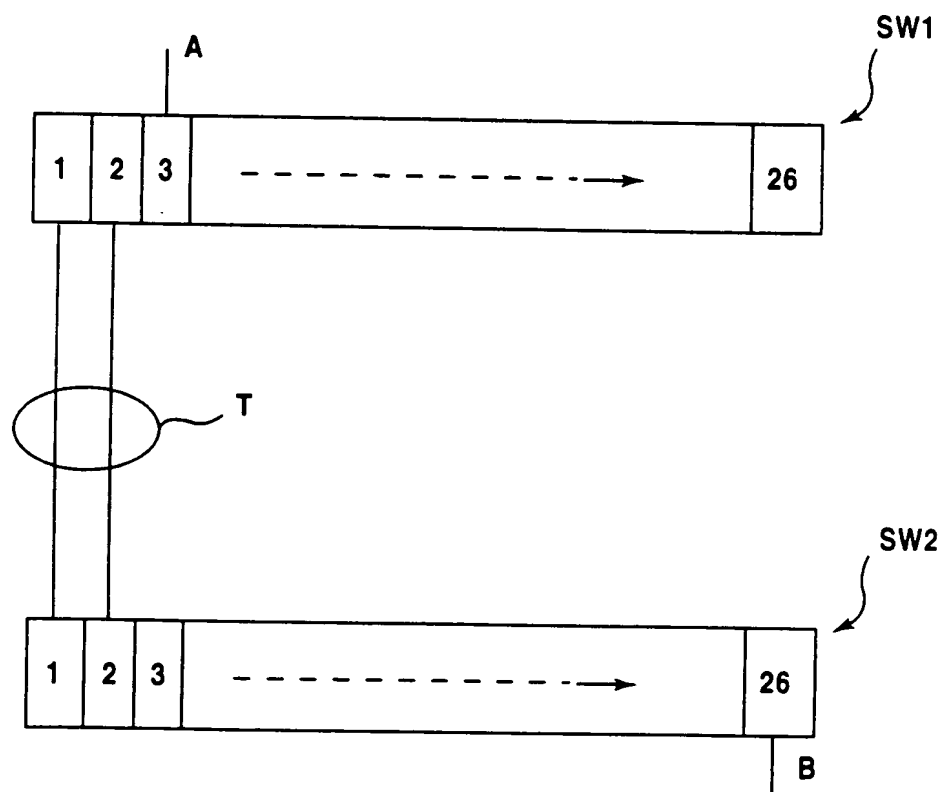


Fig.20

FIELD	HEADER	SIZE	OFFSET FOR ETHERNET II UNTAGGED	OFFSET FOR ETHERNET II TAGGED	OFFSET FOR SNAP UNTAGGED	OFFSET FOR SNAP TAGGED
DESTINATION MAC ADDRESS	MAC	6 BYTES	0	0	0	0
SOURCE MAC ADDRESS	MAC	6 BYTES	6	6	6	6
PROTOCOL TYPE	MAC	2 BYTES	12	16	20	24
DESTINATION TYPE	802.3	1 BYTE	NA	NA	14	18
SOURCE SAP	802.3	1 BYTE	NA	NA	15	19
802.1p PRIORITY	MAC	3 BITS	NA	14	NA	14
VLAN Id	MAC	12 BITS	NA	14+14b	NA	14+14b
TOS PRECEDENCE	IP	3 BITS	15	19	23	27
DIFFERENTIATED SERVICES	IP	6 BITS	15	19	23	27
SOURCE IP ADDRESS	IP	4 BYTES	26	30	34	38
DESTINATION IP ADDRESS	IP	4 BYTES	30	34	38	42
PROTOCOL	IP	1 BYTE	23	27	31	35
SOURCE PORT	TCP/ UDP	2 BYTES	34	38	42	46
DESTINATION PORT	TCP/ UDP	2 BYTES	36	40	44	48
TCP CONTROL FLAGS (FOR ALIGNING ON BYTE BOUNDARY 2 BITS OF RESERVED BITS PRECEDING THIS FIELD IS INCLUDED)	TCP	1 BYTE	47	51	55	59
DATA AT OFFSET 1	NA	8 BYTES	DATA OFFSET1 FROM START OF IP/IPX HEADER	DATA OFFSET1 FROM START OF IP/IPX HEADER	DATA OFFSET1 FROM START OF IP/IPX HEADER	DATA OFFSET1 FROM START OF IP/IPX HEADER
DATA AT OFFSET 2	NA	8 BYTES	DATA OFFSET2 FROM START OF IP/IPX HEADER	DATA OFFSET2 FROM START OF IP/IPX HEADER	DATA OFFSET2 FROM START OF IP/IPX HEADER	DATA OFFSET2 FROM START OF IP/IPX HEADER
DATA AT OFFSET 3	NA	8 BYTES	DATA OFFSET3 FROM START OF IP/IPX HEADER	DATA OFFSET3 FROM START OF IP/IPX HEADER	DATA OFFSET3 FROM START OF IP/IPX HEADER	DATA OFFSET3 FROM START OF IP/IPX HEADER
DATA AT OFFSET 4	NA	8 BYTES	DATA OFFSET4 FROM START OF IP/IPX HEADER	DATA OFFSET4 FROM START OF IP/IPX HEADER	DATA OFFSET4 FROM START OF IP/IPX HEADER	DATA OFFSET4 FROM START OF IP/IPX HEADER

Fig.21a

FILTER MASK FORMAT:

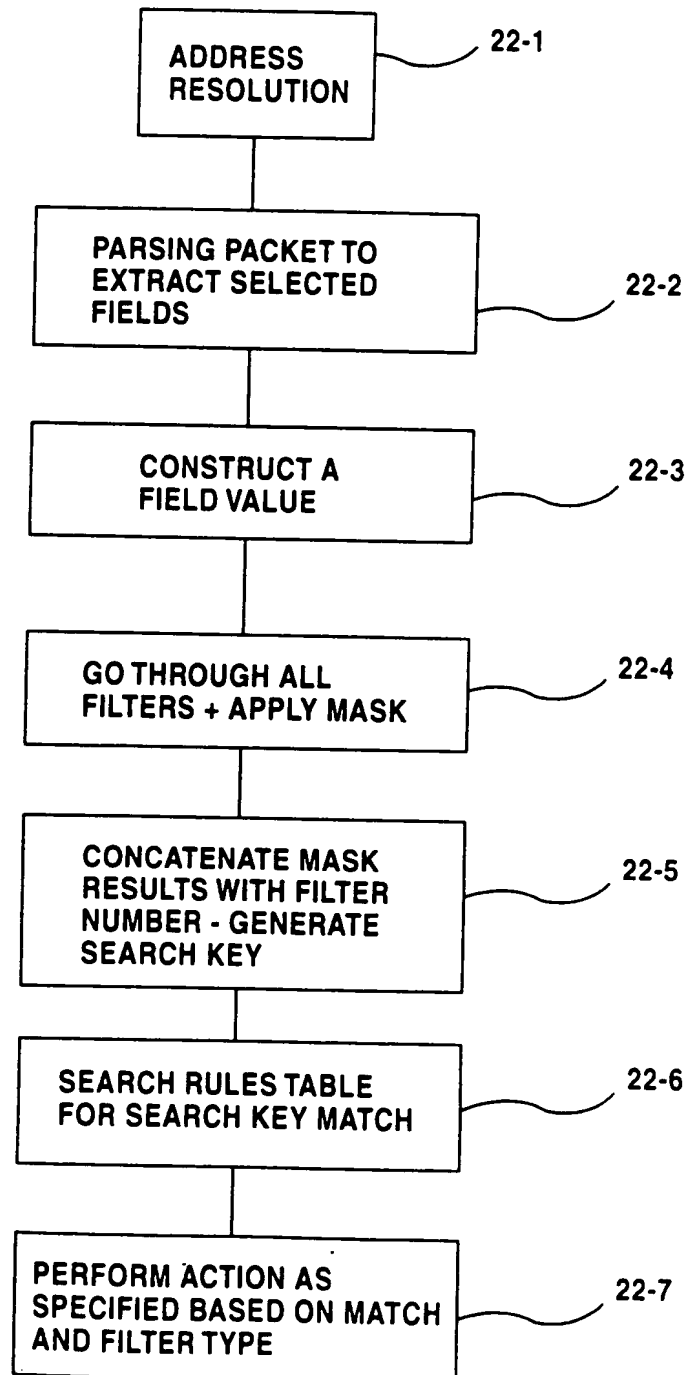
FILTER ENABLE (1b)	COUNTER (5b)	Rem PORT (1b)	OUTPUT MOD (5b)	OUTPUT PORT (6b)	TOS Prec (3b)	Diff Serv (6b)	802.1p PRIOR (3b)	
NMA ENB (1b)	NO MATCH ACTION (10b)	DATA OFFSET 4 (7b)	DATA OFFSET 3 (7b)	DATA OFFSET 2 (7b)	DATA OFFSET 1 (7b)	INGRESS PORT MASK (6b)	EGRESS MOD ID MASK (5b)	EGRESS PORT MASK (6b)
FIELD MASK								

Fig.21b

FIELD MASK FORMAT:

DEST MAC ADDR (6B)	SRC MAC ADDR (6B)	PROT TYPE (2B)	DEST SAP (1B)	SRC SAP (1B)	802.1 p PRIO (3b)	VLAN ID (12b)	TOS PREC (3b)	DIFF SERV (6b)	SRC IP ADDR (4B)	DEST IP ADDR (4B)	PROT IP (1B)	SRC PORT (2B)	DEST PORT (2B)
TCP CNTR FLAGS (1B)		DATA 1 (8B)		DATA 2 (8 B)		DATA 3 (8B)		DATA 4 (8B)					

Fig.22



22

[illegible]

Fig.24

30	28	26	24	22	20	18	16	14	12	10	8	6	4	2	0
SOURCE IP ADDRESS															
MULTICAST IP ADDRESS															
r	L3 PORT BITMAP														
L3 MODULE BITMAP															
UNUSED										TTL THRESHOLD		SOURCE PORT			

Fig.25

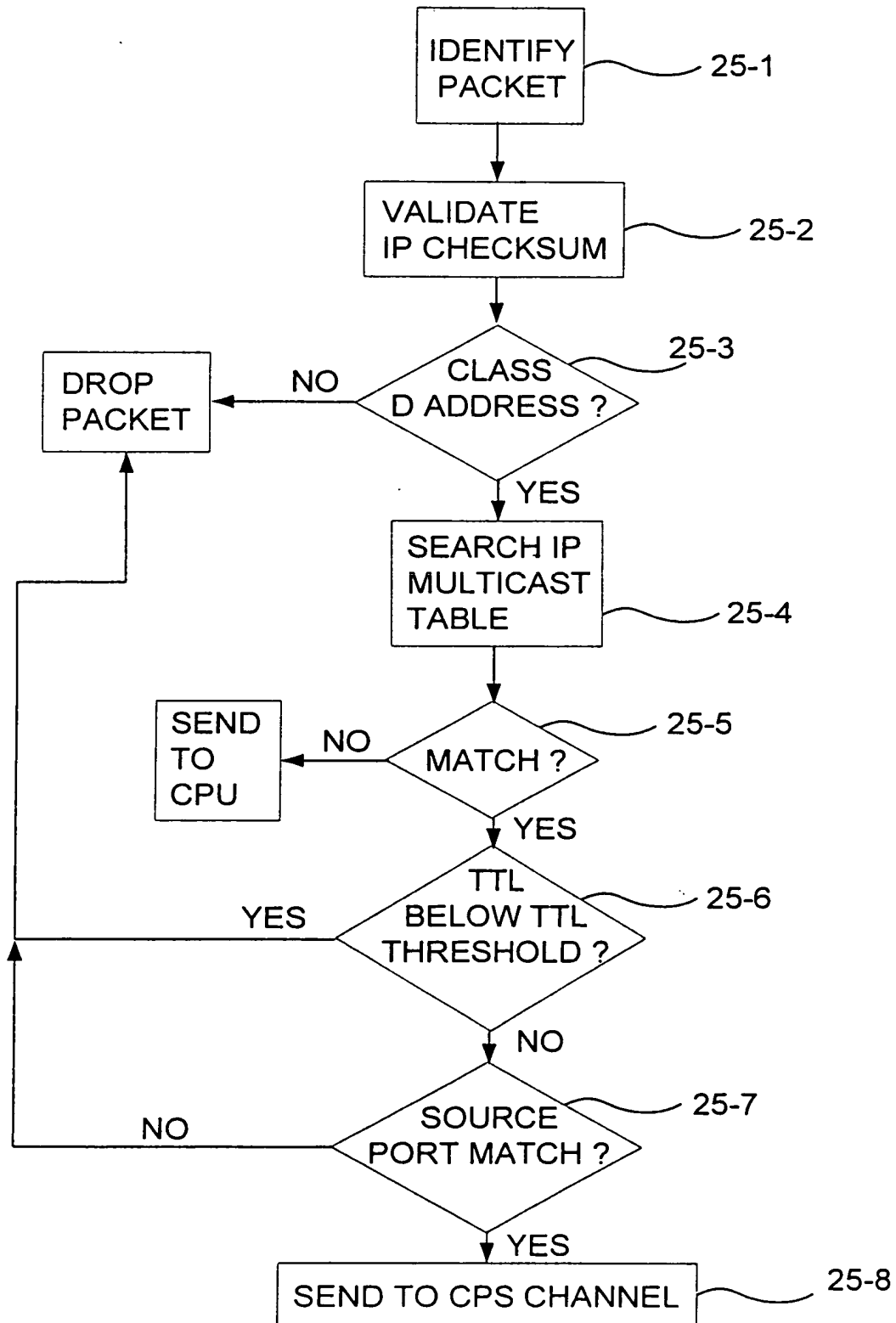


Fig.26

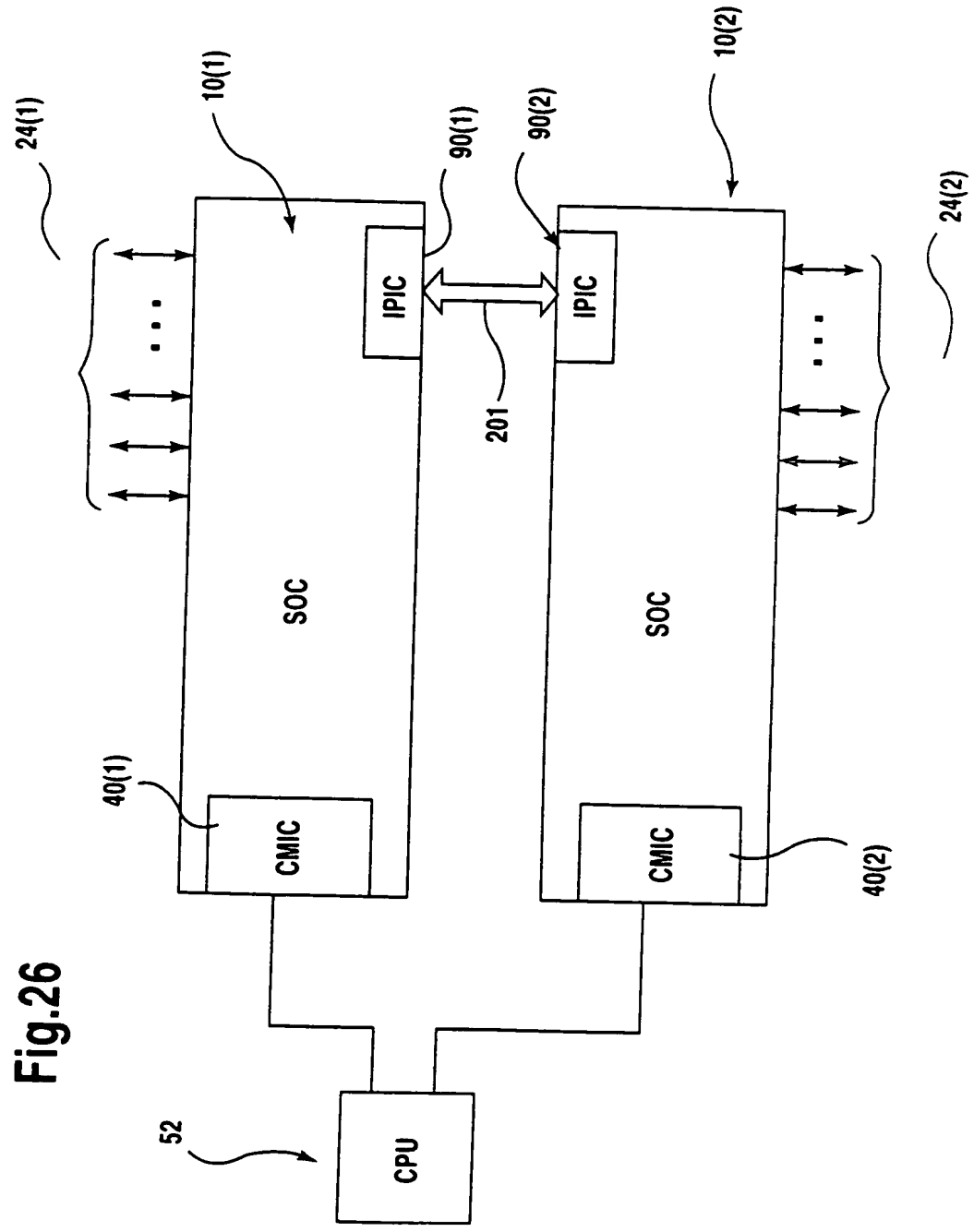


Fig.27a

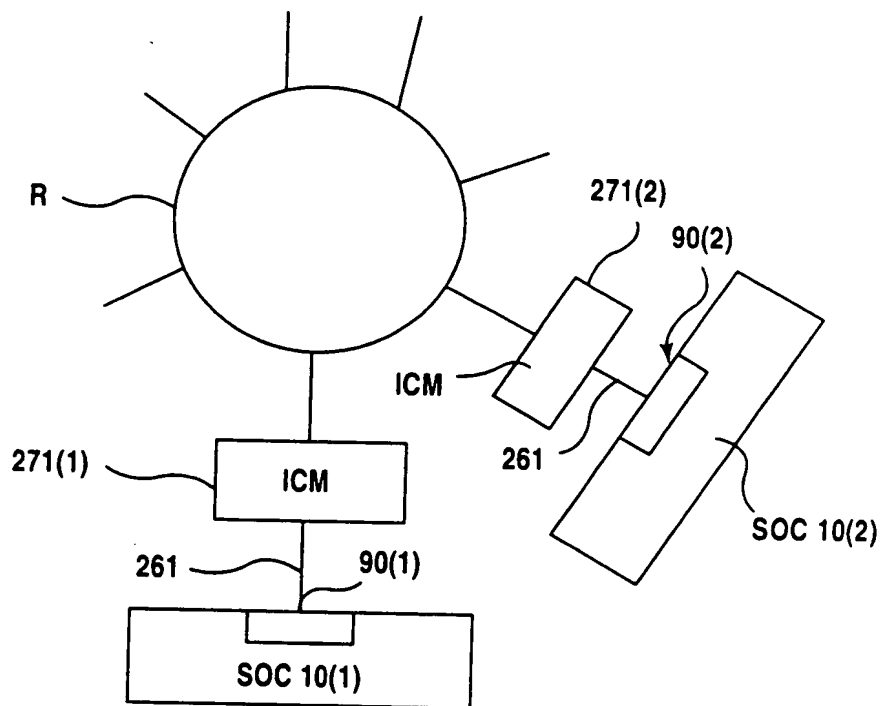


Fig.27b

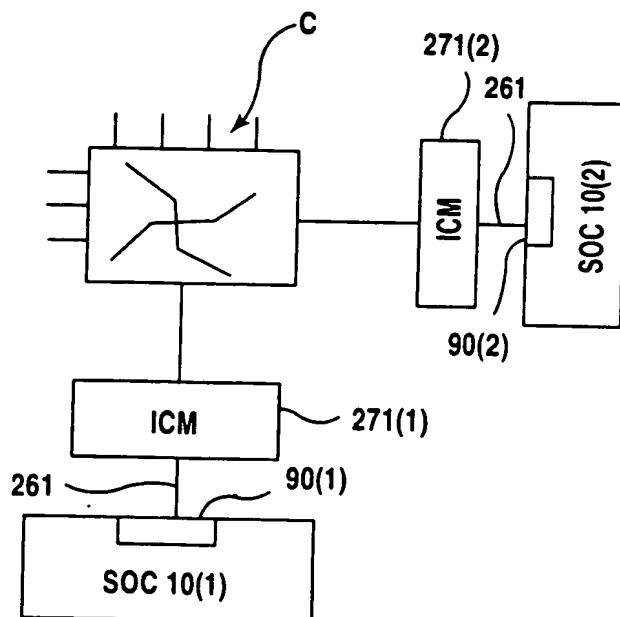


Fig.28

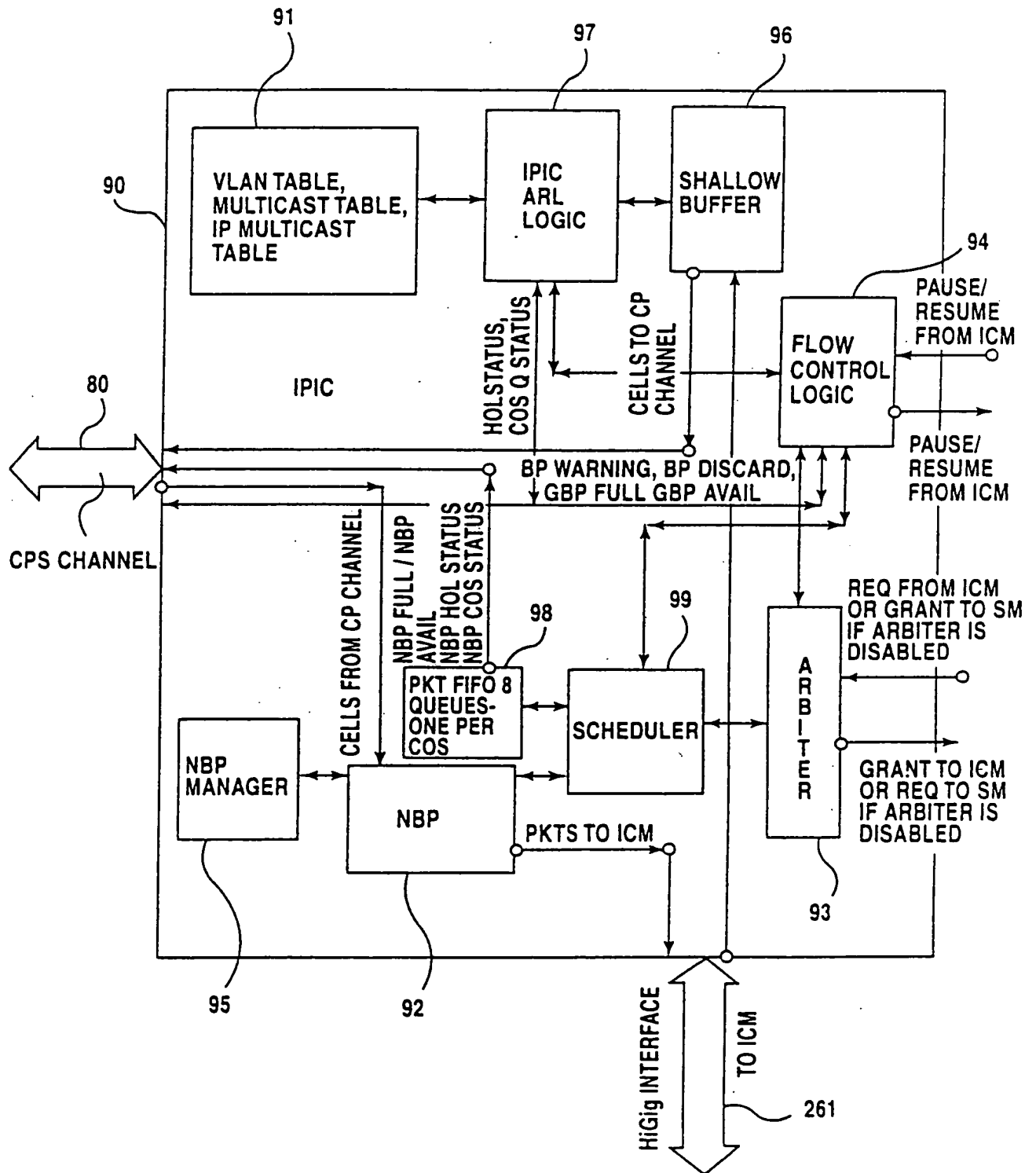


Fig.29

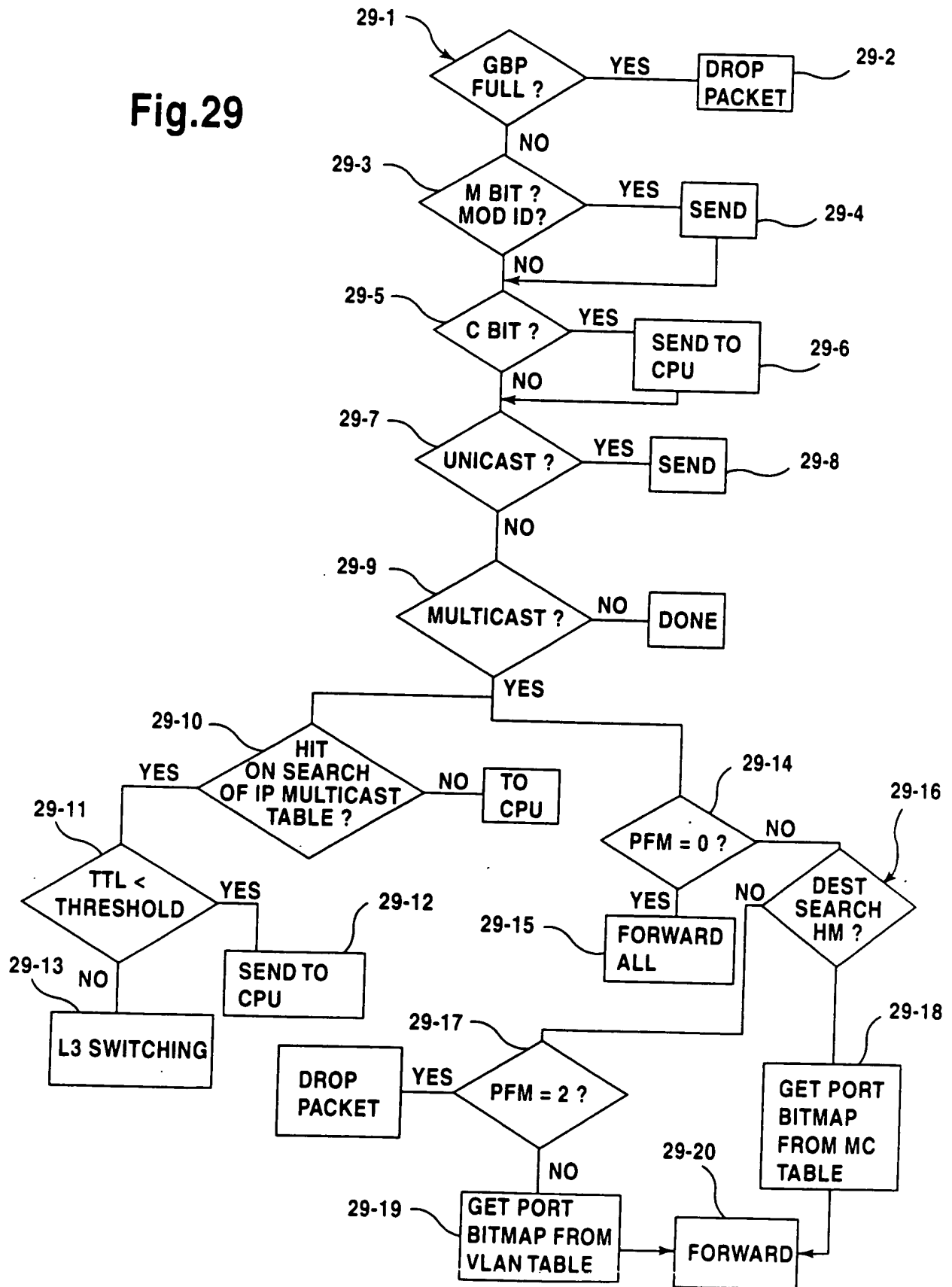


Fig.30

COS QUEUE (3b)	C P F	NCA (2b)	802.1p PRIORITY (3b)	RATE COUNTER (8b)	RATE COUNTER THRESHOLD (8b)	RATE DISCARD THRESHOLD ID (8b)	NEW CODE POINT (6b)	NEW COS QUEUE (3b)	NEW 802.1 PRIORITY (3b)
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Fig.31

OFFSET FIELD	OFFSET 1	OFFSET 2	OFFSET 3	OFFSET 4
000	0-15	16-31	32-47	48-63
001	8-23	24-39	40-55	56-71
010	16-31	32-47	48-63	64-79
011	24-39	40-55	56-71	72-87
100	32-47	48-63	64-79	80-95
101	40-55	56-71	72-87	88-103
110	48-63	64-79	80-95	96-111
111	56-71	72-87	88-103	104-119

Fig.32

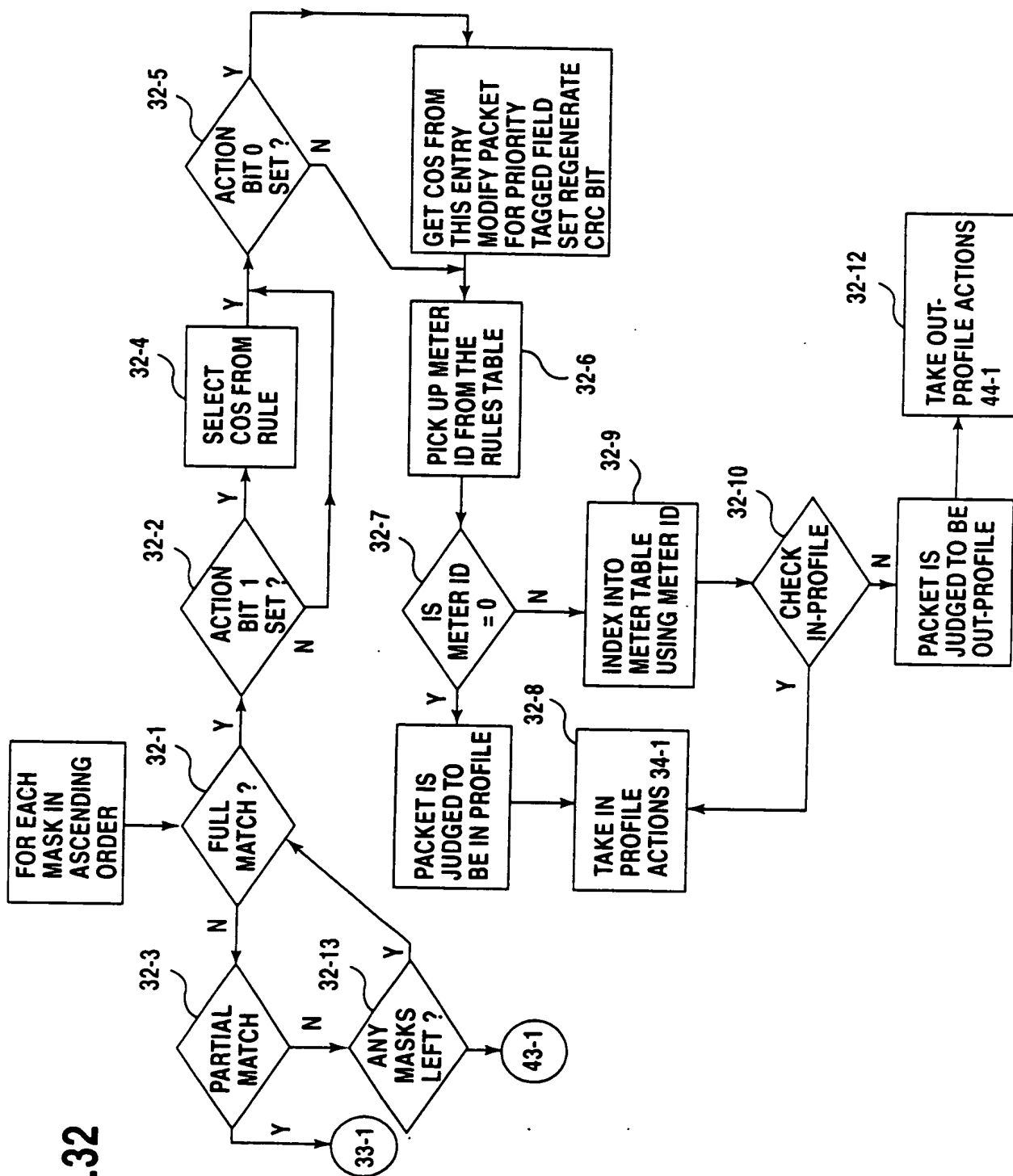


Fig.33

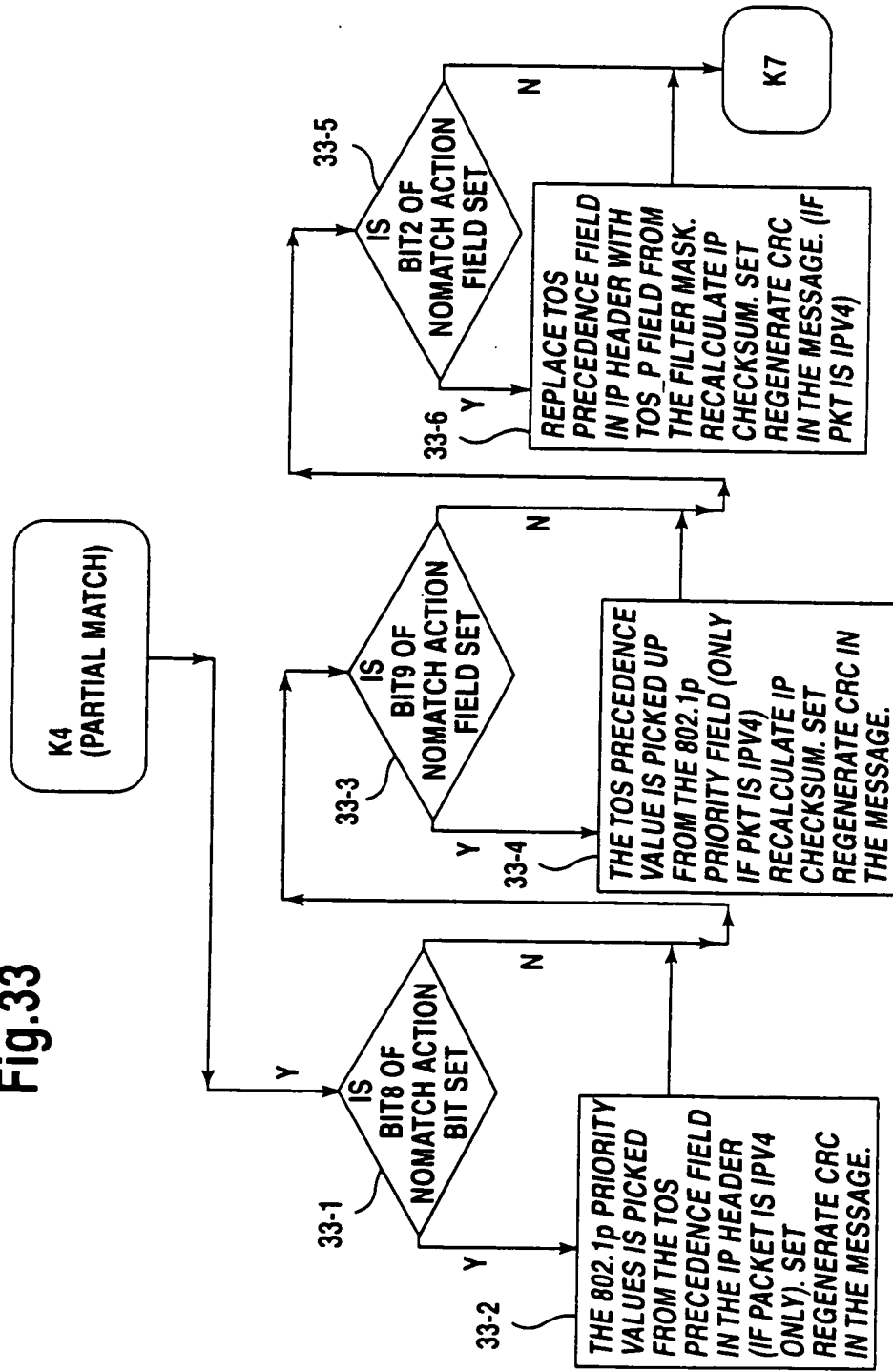


Fig.34

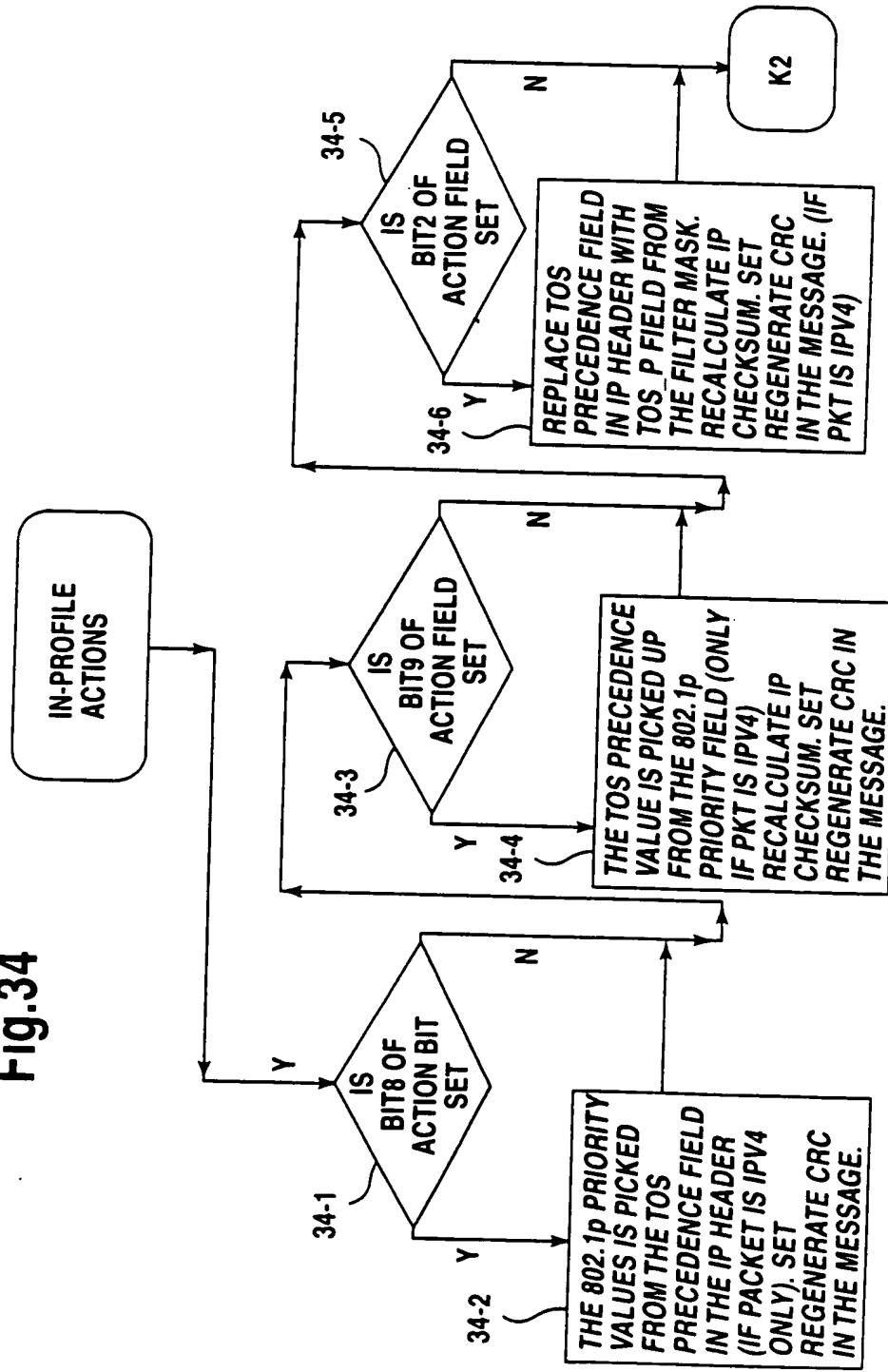
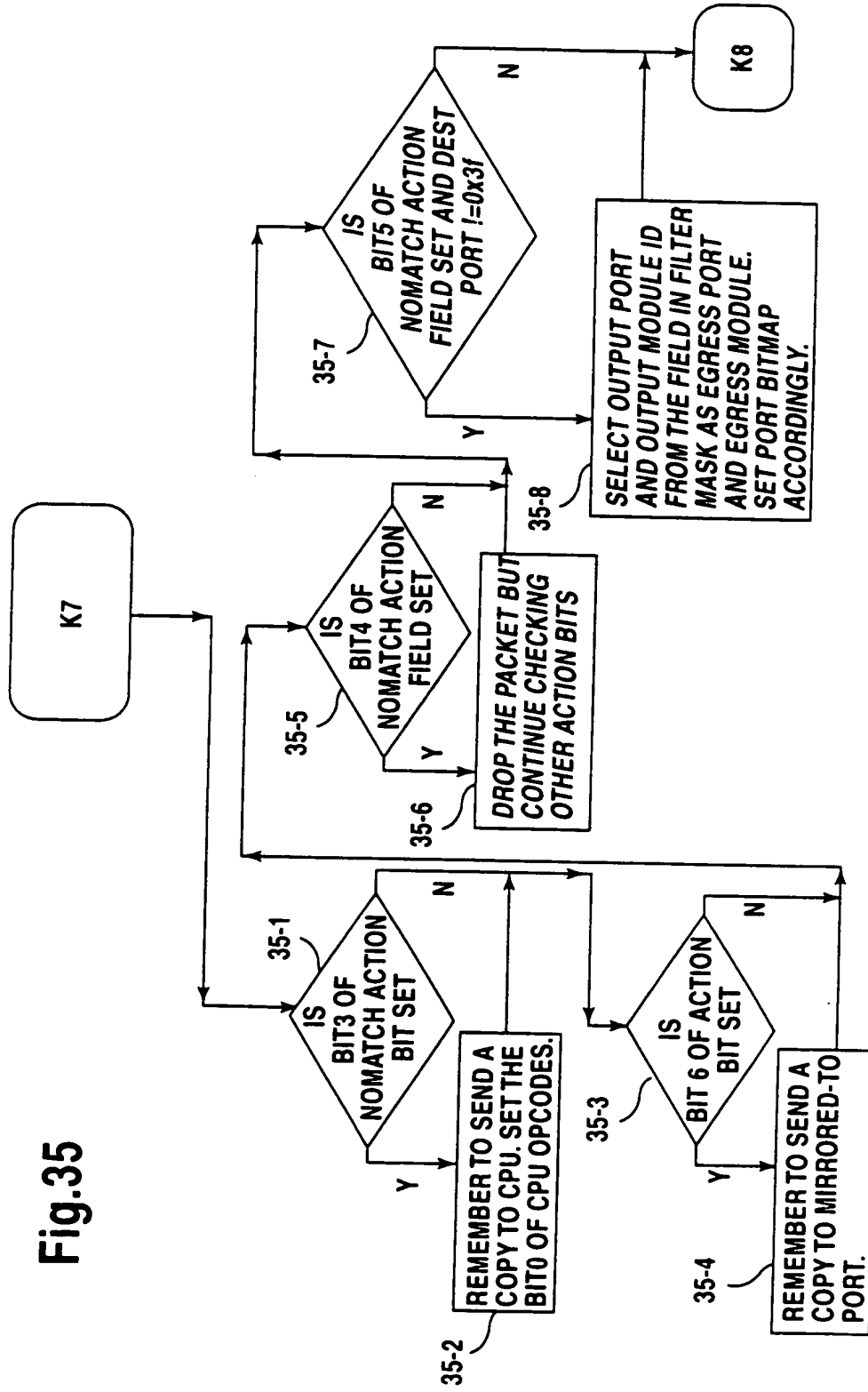


Fig.35



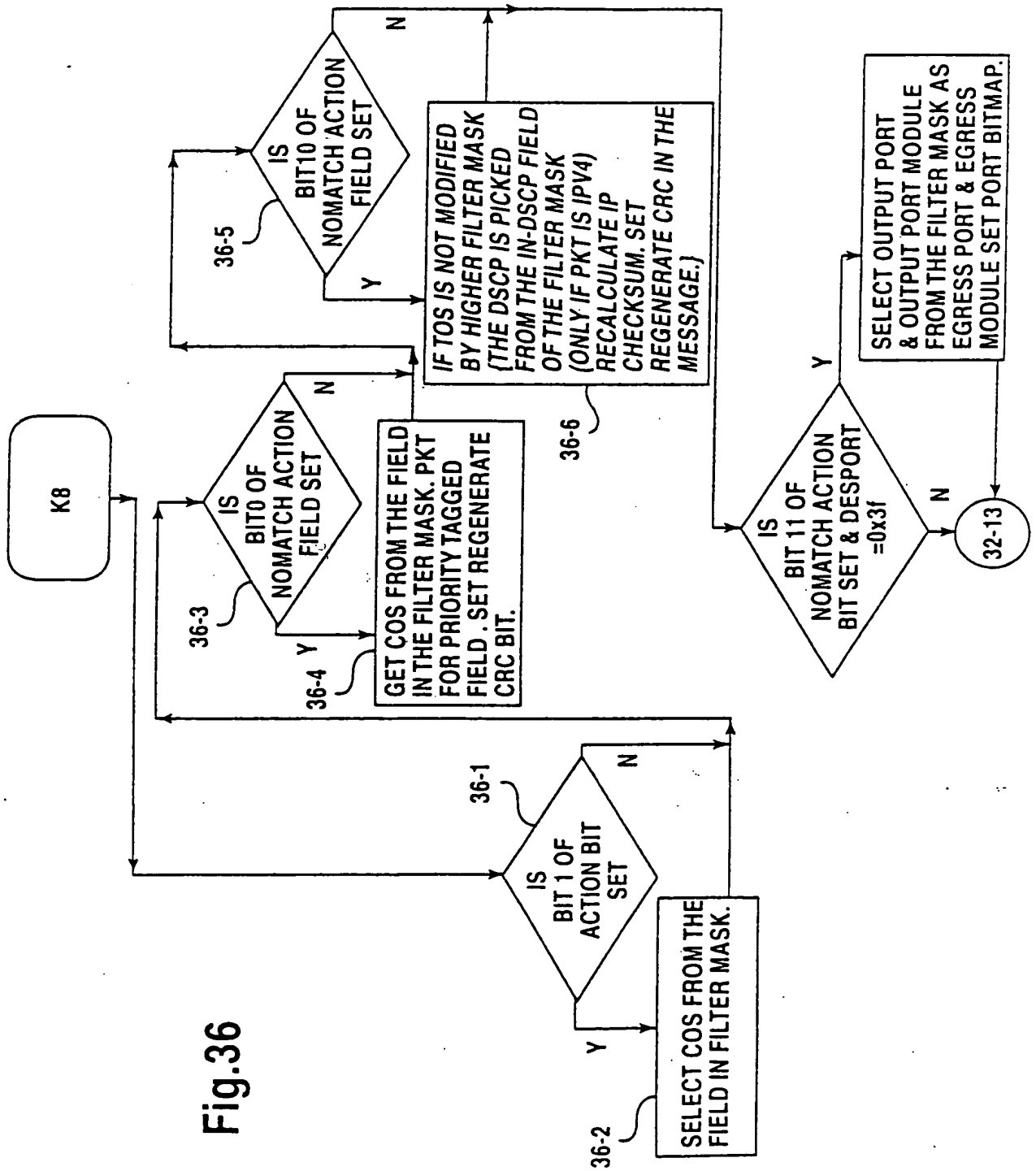


Fig.37

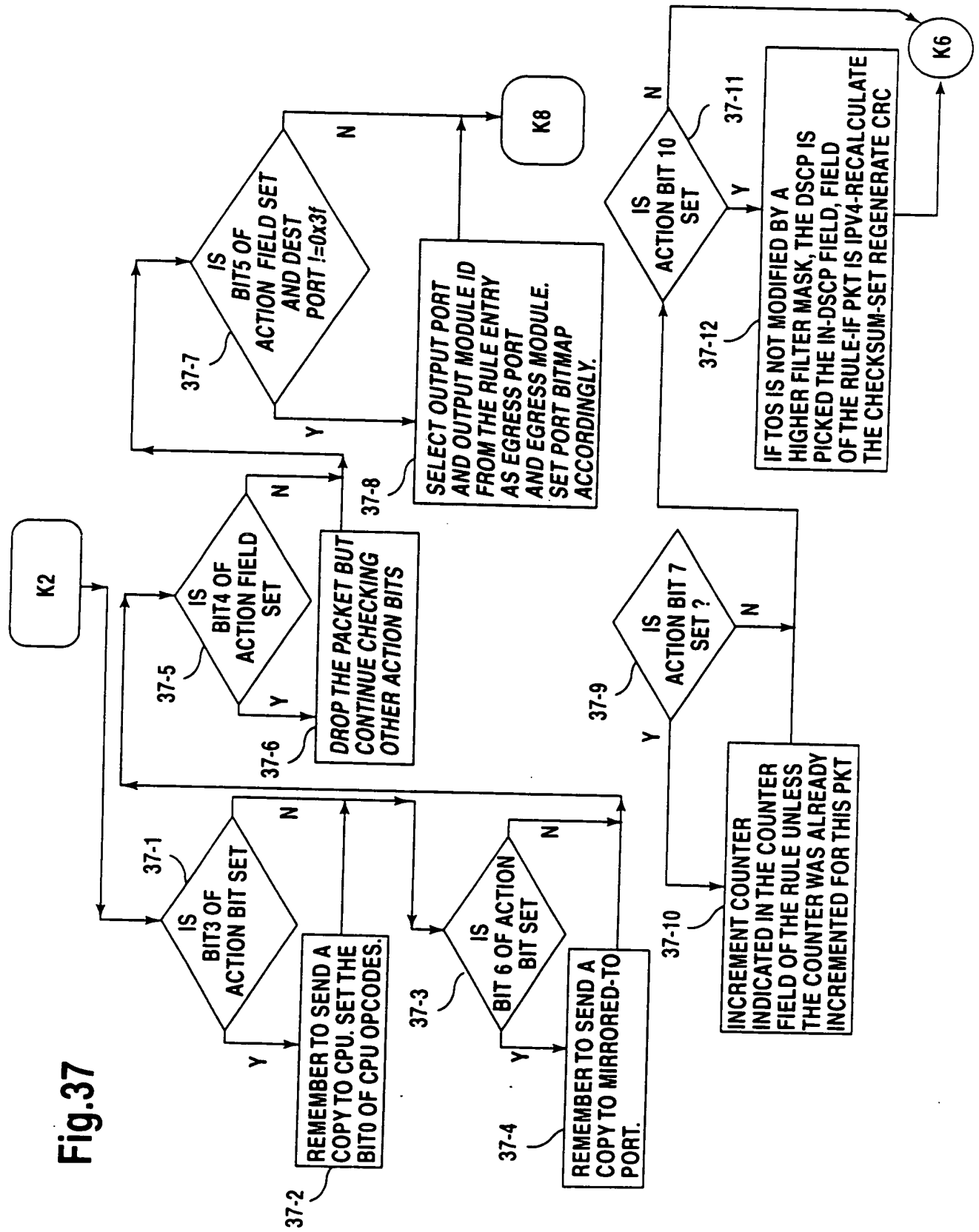


Fig.38

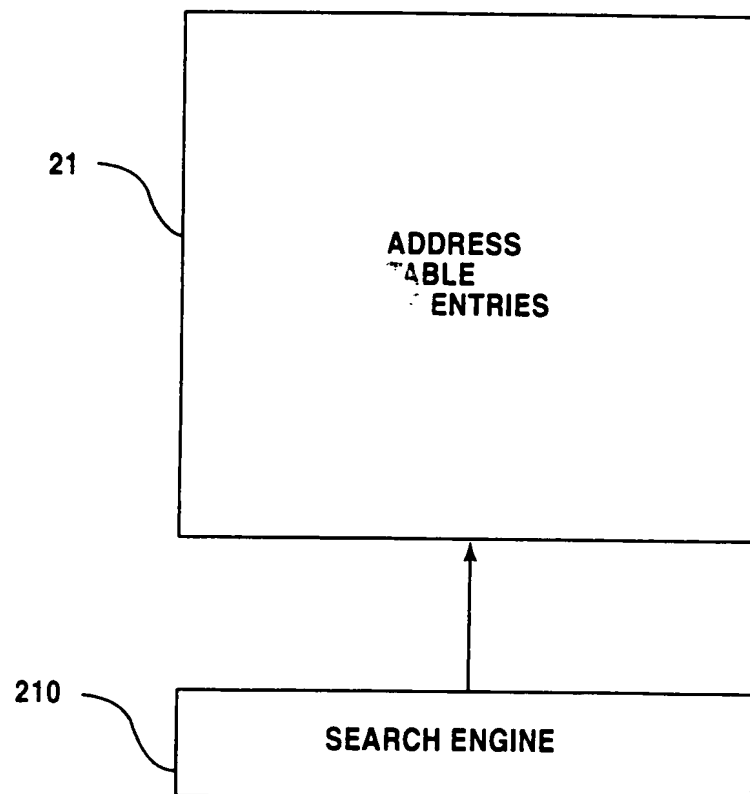


Fig.39

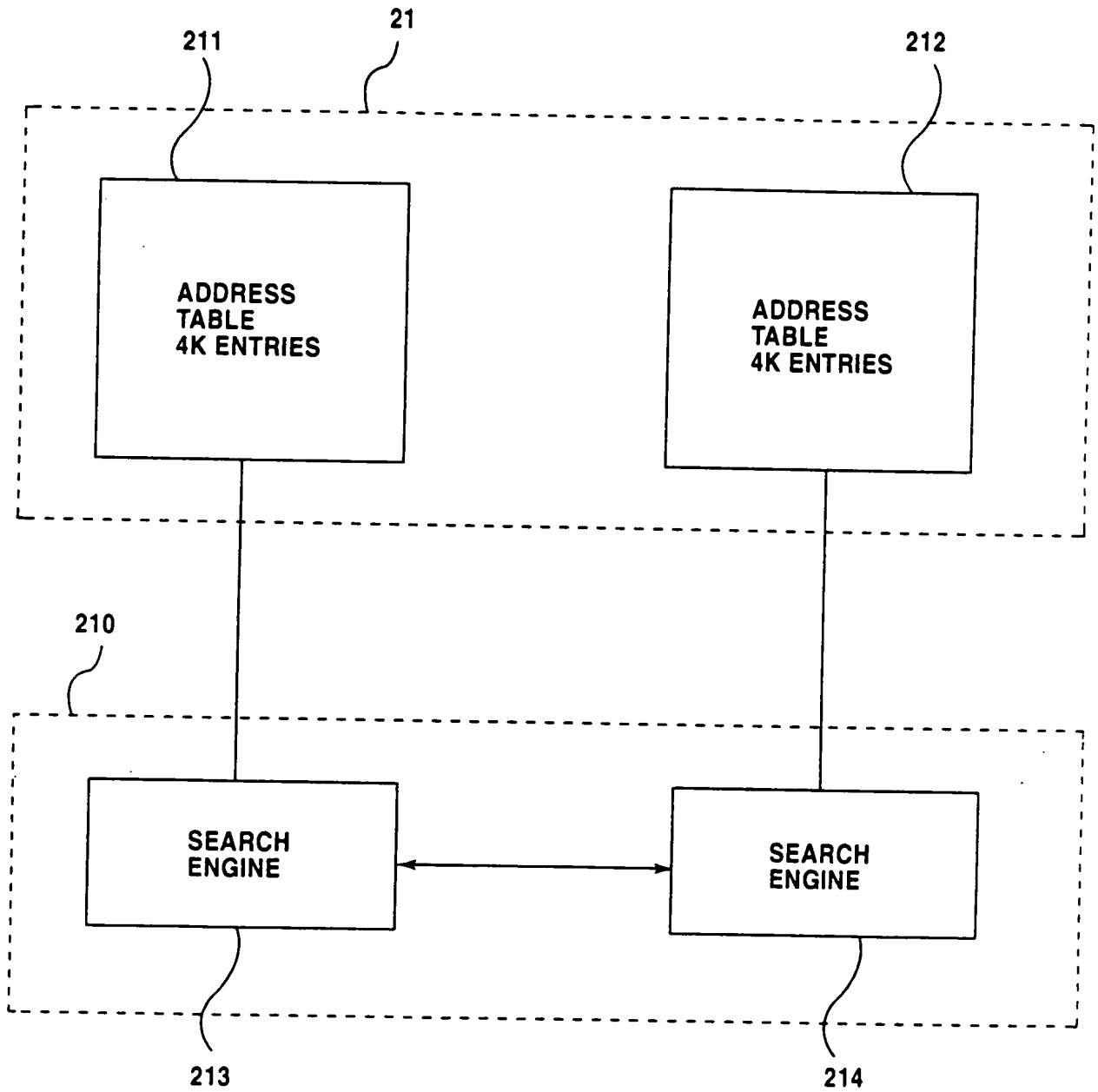


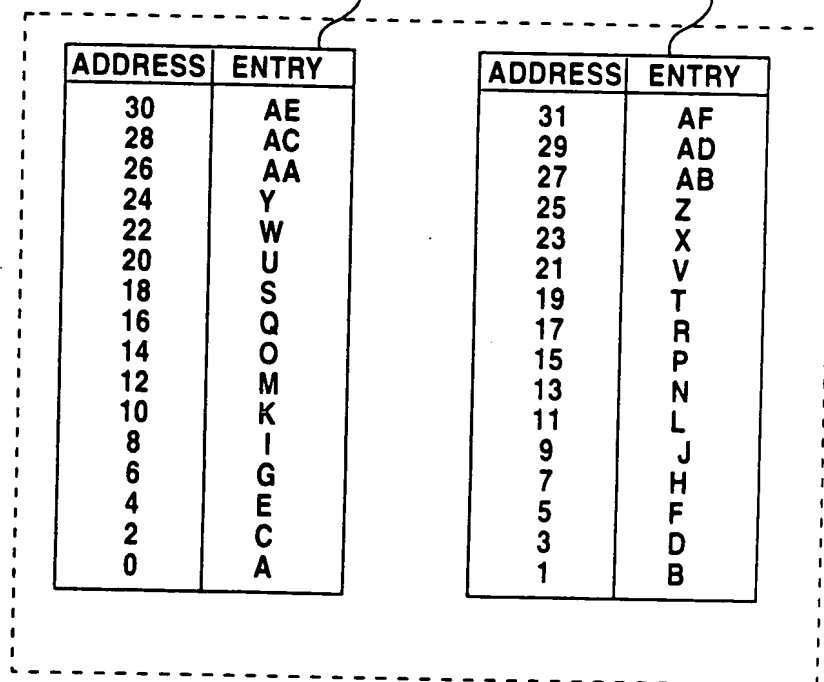
Fig.40a

ADDRESS	ENTRY
31	AF
30	AE
29	AD
28	AC
27	AB
26	AA
25	Z
24	Y
23	X
22	W
21	V
20	U
19	T
18	S
17	R
16	Q
15	P
14	O
13	N
12	M
11	L
10	K
9	J
8	I
7	H
6	G
5	F
4	E
3	D
2	C
1	B
0	A

21

211

212



21

Fig.40b

Fig.41a

ADDRESS	ENTRY
31	NN
30	MM
29	LL
28	KK
27	JJ
26	GH
25	CF
24	CC
23	BE
22	BD
21	BC
20	BA
19	AC
18	AB
17	AA
16	Y
15	X
14	V
13	T
12	S
11	R
10	Q
9	N
8	M
7	L
6	K
5	J
4	G
3	E
2	D
1	C
0	B

21

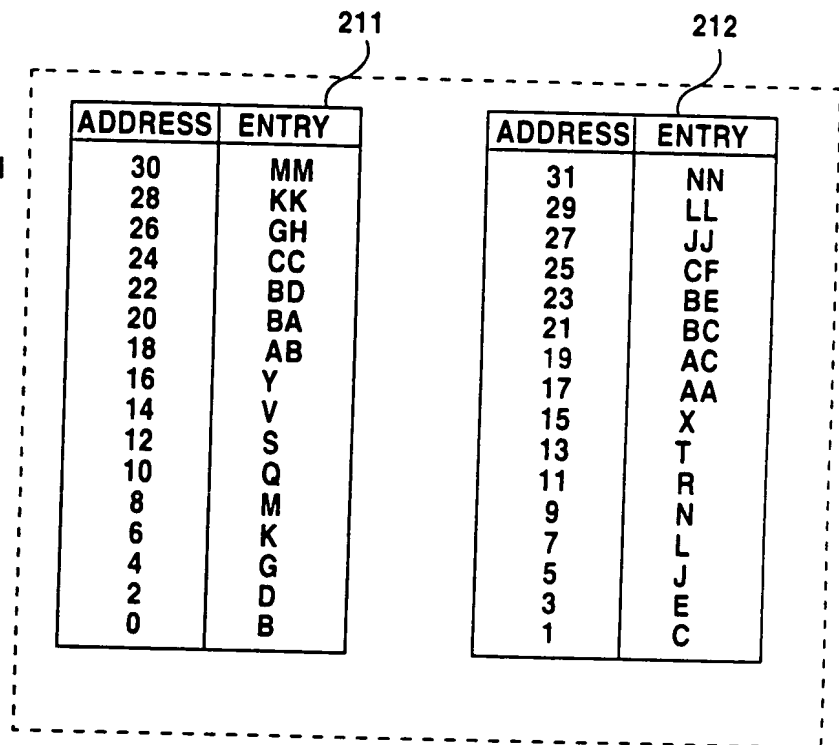


Fig.41b

Fig.42

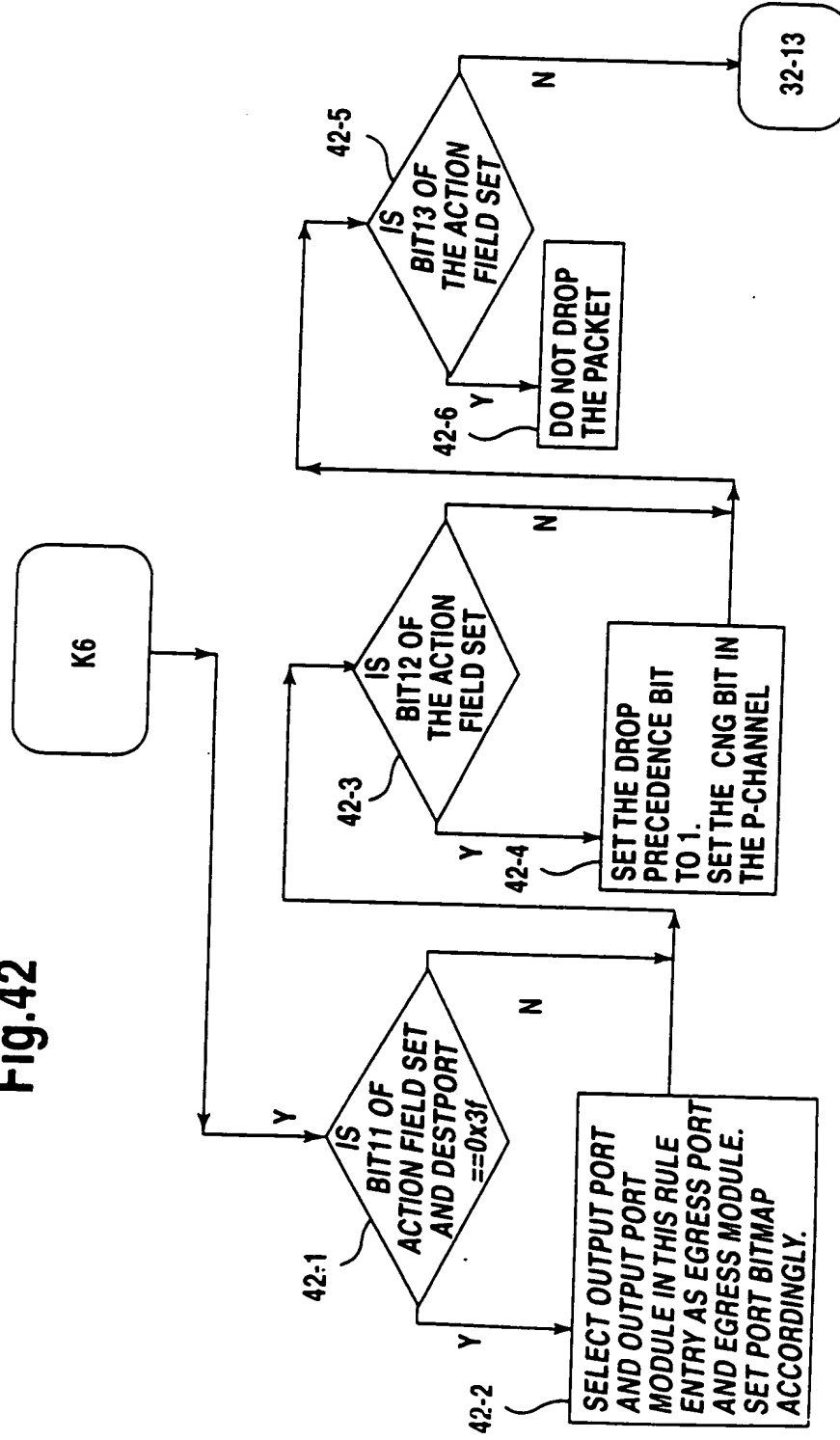


Fig.43

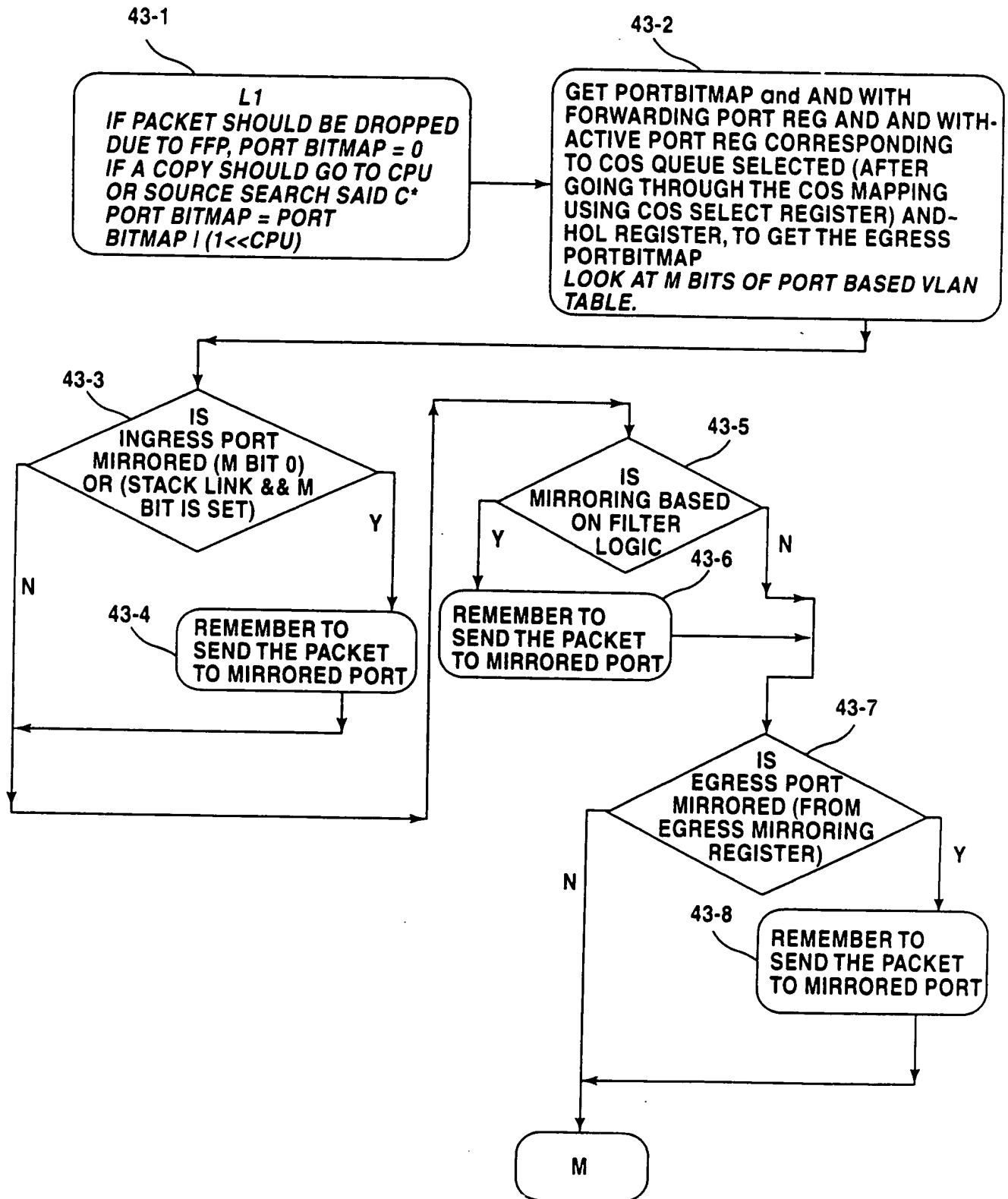


Fig.44

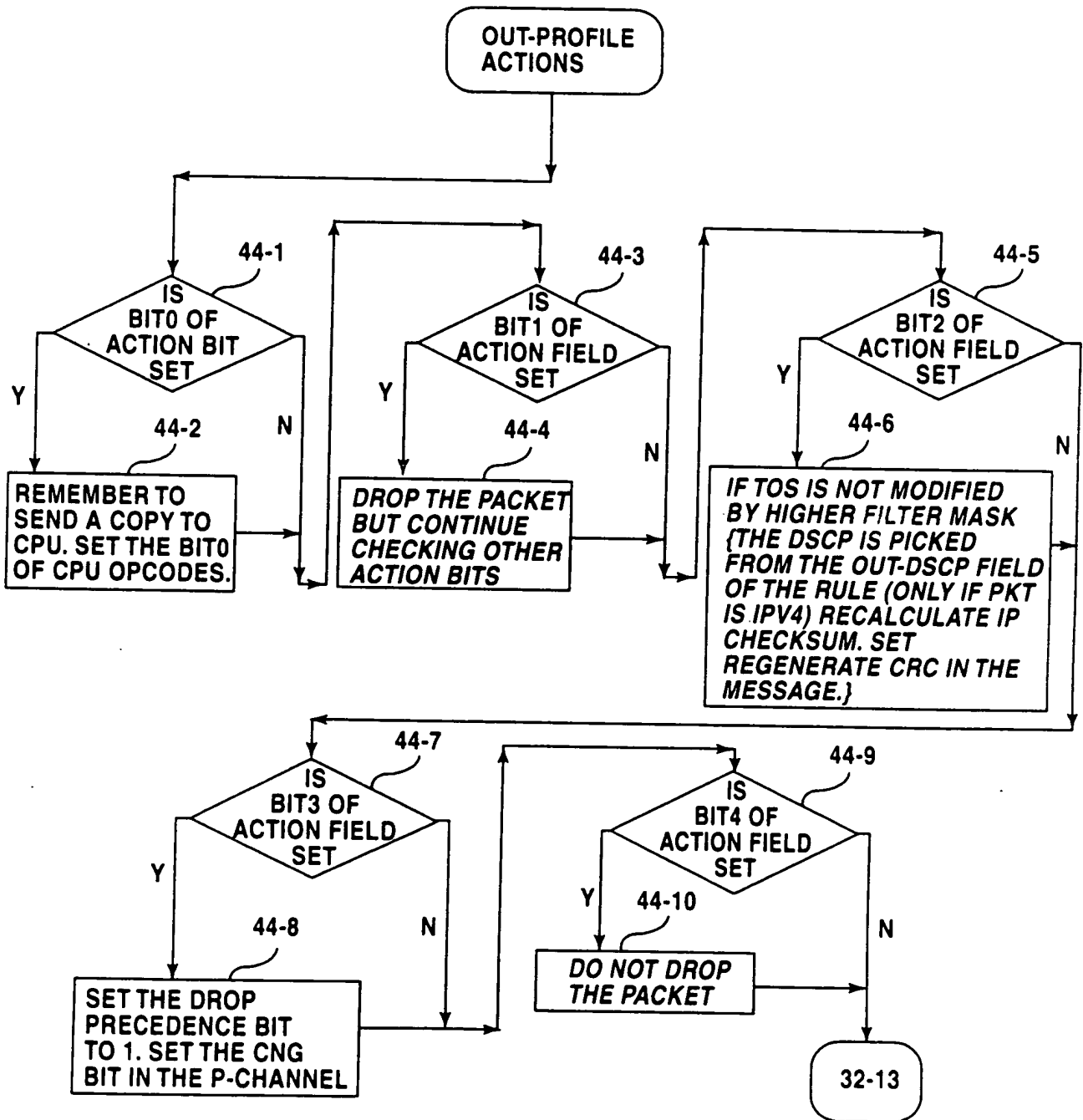


Fig.45

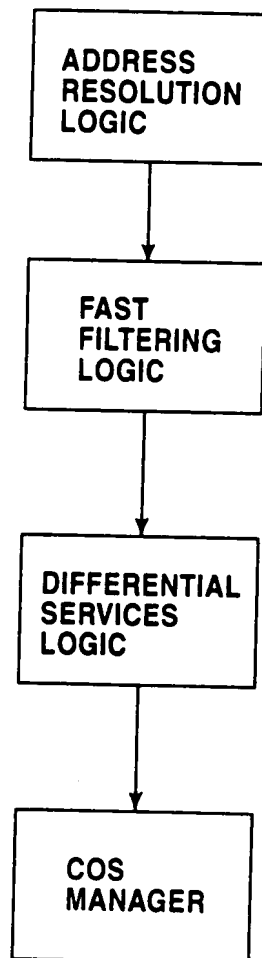


Fig.46

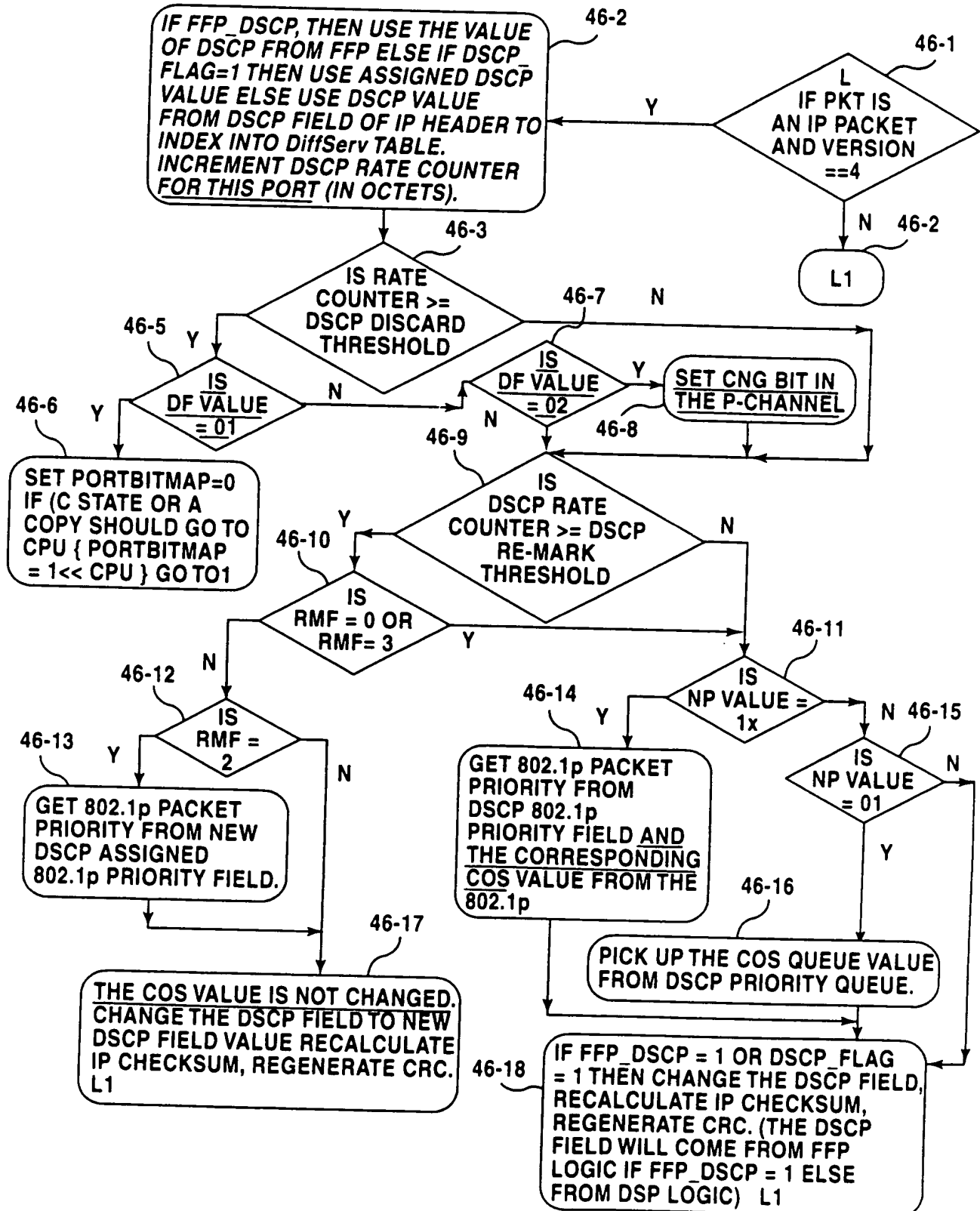
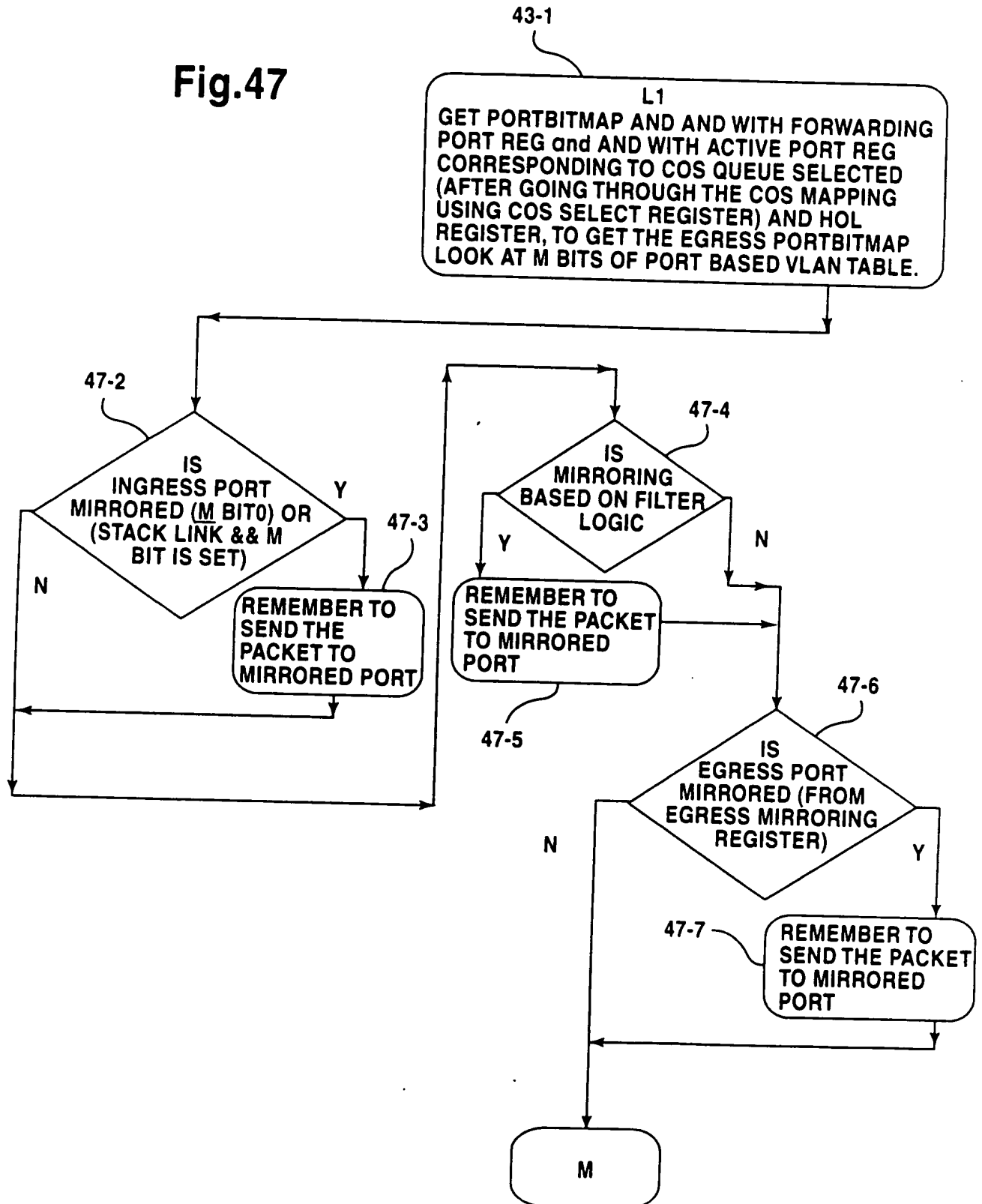


Fig.47



REPLACEMENT SHEET

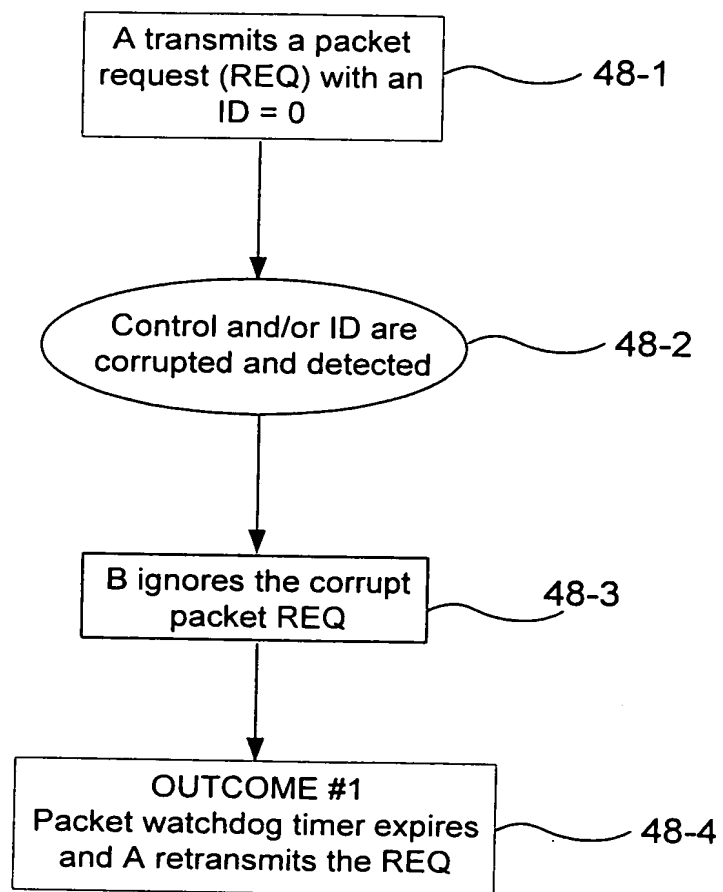


Fig. 48

REPLACEMENT SHEET

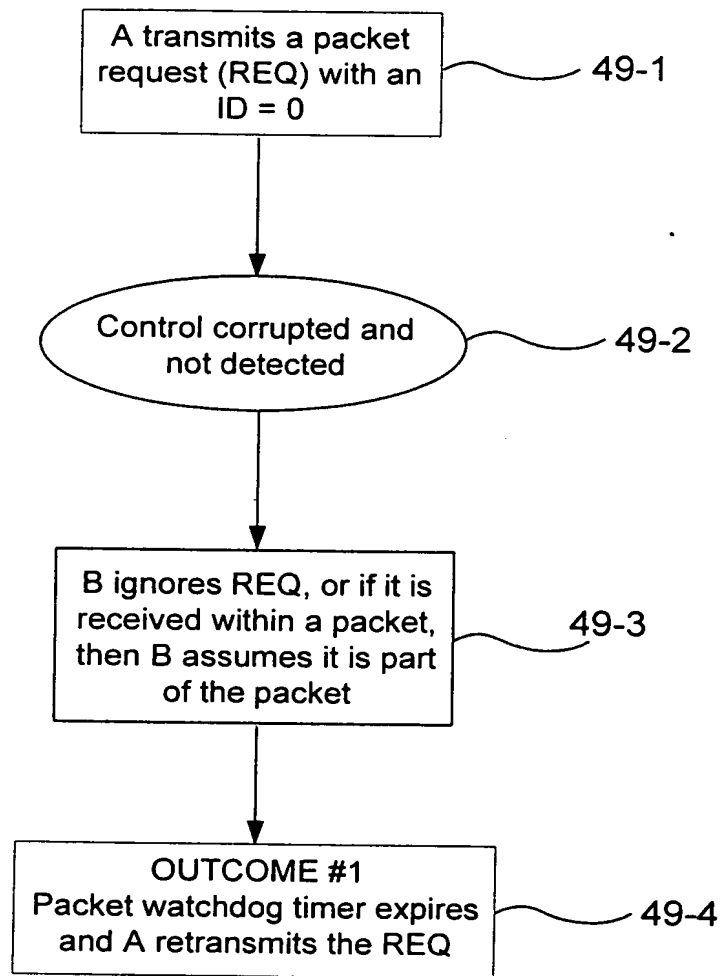


Fig. 49

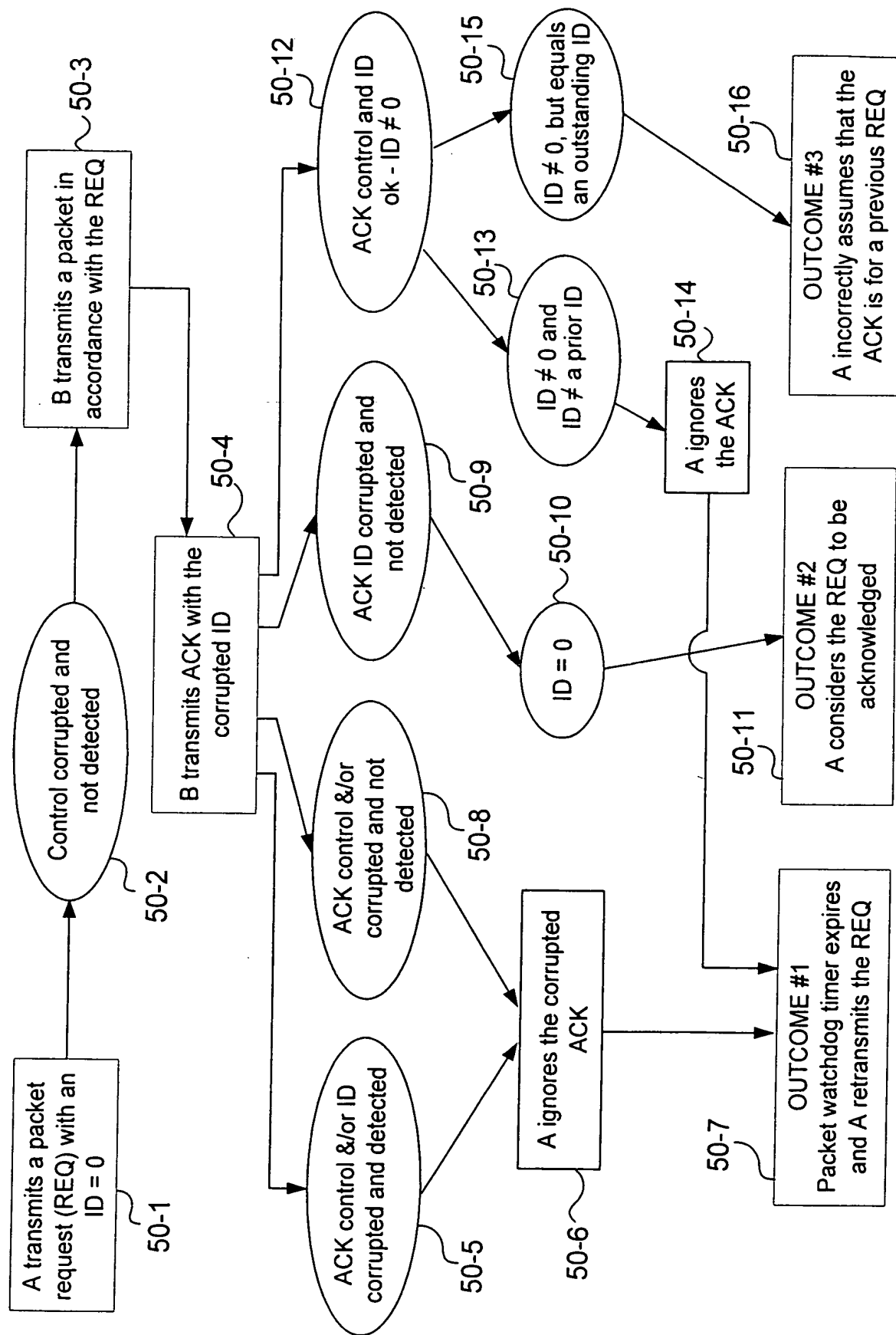


Fig. 50

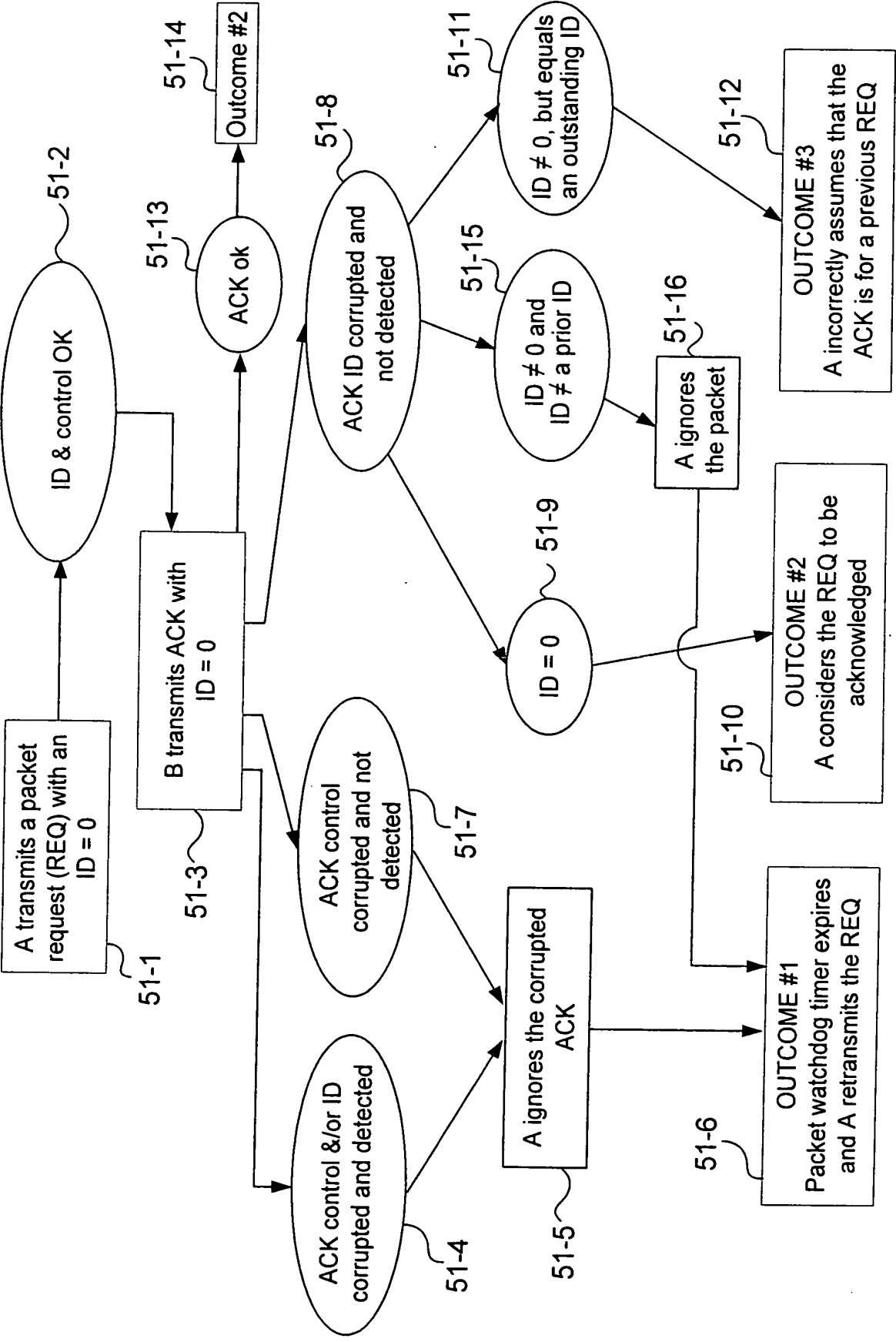


Fig. 51